THE Malaspina Okeover
COASTAL PLAN

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TABLE OF CONTENTS

Acknowledgements *1*
1.Introduction *3*
  1.1. Location 3
  1.2. Plan Rationale and Intent 3
  1.3. Jurisdiction and Scope 4
  1.4. Planning Process 5
2.Plan Area Description *7*
  2.1. Physical and Oceanographic Features 7
  2.2. Biological Features 11
  2.3. Social and Economic Profile 19
  2.4. Economic Activities 22
3.Plan Framework and Direction *29*
  3.1. Use of the Plan 29
  3.2. Related Planning Initiatives 29
  3.3. Planning Units and Unit Data 29
  3.4. British Columbia Marine Ecological Classification (BCMEC) 30
  3.5. BC Biophysical Shore-Zone Mapping 32
  3.6. Shellfish Aquaculture Biophysical Capability Assessments and Tourism Opportunity Studies 32
  3.7. Upland Status and Influence on Water Quality 33
  3.8. Uses and Activities 33
  3.9. Current Issues 33
  3.10. Use and Activity Recommendations 33
  3.11. Determination of Acceptable Uses 36
  3.12. Management Emphasis 36
  3.13. Management Conditions and Guidelines: 37
  3.14. Follow-up Actions 37
  3.15. Issues and Concerns 37
Unit Despcriptions *41*
  Unit 1 Malaspina Inlet North 41
  Unit 2 Malaspina Inlet South 47
  Unit 3 Trevenen Bay 53
  Unit 4 Okeover Inlet West 59
  Unit 5 Okeover Inlet East 67
  Unit 6 Lancelot Inlet 75
  Unit 7 Theodosia Inlet 81
4.Plan Assessment *87*
  4.1. Environmental Implications of Recommendations 87
  4.2. Economic Implications of Recommendations 90
5.Summary and Follow-up *93*
  5.1. Summary of Plan Recommendations 93
  5.2. Information Limitations 93
  5.3. Summary of Recommendations for Land Act Notations 93
  5.4. First Nations Considerations 95
  5.5. Marine Conservation & Integrated Coastal Management 95
  5.6. Plan Variation Process 96

5.7. Plan Review and Amendment ... 97
5.8. Summary of Follow-up Activities for Government Agencies ... 97
Appendices ... 99
Appendix 1. Governance Principles for Sustainable Resource Management ... 99
Appendix 2. First Nations, Agency, and Interest Group Discussions ... 100
Appendix 3. Protocol Agreement for Managing Public Recreation and Water Quality in the Malaspina/Okeover Inlet Complex (signed in 2001) ... 105
Appendix 4. Decision Tools ... 107
Appendix 5. Concerns Stated by the Sliammon (Tla'amin) First Nation ... 108
Appendix 6. Regulation of Shellfish Aquaculture and Dispute Resolution ... 109
Appendix 7. Technical Siting and Compatibility Criteria for Tenured Uses ... 114
Appendix 8. Supporting Information for Environmental Risk Analysis ... 122
Appendix 9. References ... 131

Acronyms

AMMA: Active Malaspina Mariculture Association
THE ALLIANCE: Alliance for Responsible Shellfish Farming
BCTC: British Columbia Treaty Commission
CFIA: Canadian Food Inspection Agency
CMPB: Coast and Marine Planning Branch, MSRM
CCG: Canadian Coast Guard, Department of Fisheries and Oceans.
CDC: Provincial Conservation Data Centre, Ministry of Water, Land and Air Protection
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
CSSP: Canadian Shellfish Sanitation Program
CWS: Canadian Wildlife Service, Environment Canada
EC: Environment Canada
DFO: Department of Fisheries and Oceans
DSS: Decision Support Services Branch of the Ministry of Sustainable Resource Management
LWBC: Land and Water British Columbia Inc
MAFF: Provincial Ministry of Agriculture, Food and Fisheries
MEM: Provincial Ministry of Energy and Mines
MOF: Provincial Ministry of Forests
MSRM: Provincial Ministry of Sustainable Resource Management
ORA: Okeover Ratepayers Association
PFMA: Pacific Fisheries Management Area
PRPAWS: Powell River Parks and Wilderness Society
PRRD: Powell River Regional District
PSP: Paralytic Shellfish Poisoning
RAA: Risk assessment area (defined below)
SCLUP: Sunshine Coast Land Use Plan
UREP: A reserve or notation of interest established for the use, recreation and enjoyment of the public.
TRIM: Terrain Resource Information Management Program
VEC: Valued ecosystem component (defined below)
WLAP: Provincial Ministry of Water, Land and Air Protection

Definitions

Agreement in Principle: the agreement signed by the Parties at the end of Stage 4 of the 6-stage BCTC Process, comprising various sub-agreements and other provisions, as agreed.

Assigning Tenures: Where a tenure holder sells his/her operation and the new operator wishes to continue the operations at the same site, LWBC may accept and approve an application from the new operator to take over the tenure.

Biophysical Capability for Shellfish Aquaculture: The potential for an area to successfully accommodate the growing or cultivation of shellfish for commercial purposes, based on measurement of biological, physical and oceanographic parameters using standard scientific methods and equipment.

Blue Listed Species: Includes any indigenous species or subspecies considered to be vulnerable in British Columbia.

Canadian Shellfish Sanitation Program: A federal program jointly administered by DFO, EC and CFIA to ensure that all bivalve molluscan shellfish (i.e., clams, mussels, oysters, whole and roe-on scallops and other bivalve molluscs) growing areas meet approved federal water quality criteria, that pollution sources to these areas are identified and that all shellfish sold commercially are harvested, transported and processed in an approved manner. See details at:

http://www.inspection.gc.ca/english/anima/fispoi/csspccsme.shtml

Depuration fishery: A fishery from which the resulting harvest must be relocated from contaminated waters to an on-shore controlled water exchange (called "depuration") tank system designed to flush contaminants from the live product. This activity requires a special licence from DFO. Oysters harvested from contaminated waters may be flushed naturally by relocating (called "relaying") them to a clean beach for an extended period of time; this also requires a licence from DFO.

Malaspina Complex: The interconnected basins adjacent to the Malaspina Peninsula. This includes Malaspina, Okeover, Theodosia and Lancelot Inlets.

Malaspina Okeover Plan Area: For the purposes of this Plan the "Malaspina Okeover Plan Area" refers to the Malaspina Complex, excluding the Desolation Sound Marine Park area. The Plan Area also includes a narrow strip of upland to points 200 meters inland from the high tide mark or to the 40 meter height contour, whichever occurs first. The Plan does not make provisions, conditions or guidelines regarding land uses for the upland portion of the Plan Area but does make some recommendations regarding future planning to mitigate potential negative influences of upland activities on marine areas. The Plan considers upland areas in providing marine provisions, conditions and guidelines in context with the influence of those marine activities on upland activities and values.

Farm gate value: The price paid to farmers for product delivered to the processing plant prior to any processing or other value-added measures being taken.

Foreshore (intertidal) area: The area between the mean high tide and low tide mark (i.e. below zero tide).

Invertebrates: Includes red, green urchins, octopus, crab, prawn, shrimp, sea cucumber.

***Land Act* Notation of Interest:** A notation on LWBC reference maps of an interest in an area of Crown land by another government agency. It ensures an initial referral to agencies whose particular mandate, programs or interests may be affected by the issuance of a tenure, and provides the opportunity for the affected agency to identify priority issues, concerns or conditions. It may be used over areas where further planning is contemplated. It does not preclude the acceptance of land applications or guarantee that any tenures will be issued.

***Land Act* Reserve:** A reserve established on LWBC reference maps to temporarily withdraw Crown land from disposition by tenure. A reserve is placed over an area to permit other agencies to undertake planning, to provide temporary protection or to maintain options for future use.

Lease: A form of Crown land tenure that conveys a limited interest in the land to the tenure holder that allows for construction of improvements on the land or modifications of the land. Often Management Plans are required to ensure appropriate and efficient use of the lease. Term is usually 30 years and the Lease holders have acquired a right to restrict public access to and across the tenure area by posting or other notice.

Licence of Occupation: A form of Crown land tenure that authorizes the holder to occupy Crown land for a given purpose for a period usually not exceeding 20 years. The licence is contractual and not exclusive (i.e. does not include right to restrict access). Licences convey a "right to occupy" and not an "interest" in the land, but do allow the construction of improvements. Management Plans are also required for licences.

Nearshore area: The sub tidal area below low tide mark (i.e. below zero tide), generally extending to the 20 meter bathymetric depth.

No-Staking Reserve: A reserve to either prohibit location (staking) of a claim or to restrict the rights acquired. It prohibits the location of a mineral and/or placer claim, and a "conditional" reserve stipulates the specific conditions or restrictions which apply to a claim located within the reserve. These reserves only affect claims located or recorded after the effective date of the reserve.

Offshore area: The subtidal area seaward of the 20 meter bathymetry depth.

Red Listed Species: Includes any indigenous species or subspecies that have been designated, or are candidates for status, as extirpated, endangered, or threatened species in British Columbia.

Renewal of Tenures: Tenures are normally issued for a set period (e.g. 10 years) , after which LWBC will normally, but is not required to, renew the tenure. The renewal would be based on a consideration of whether the tenure holder has been meeting his/her tenure obligations. Applications to LWBC are required for tenure renewals.

Risk: Risk is unavoidable, is associated with virtually every human situation, and has many acceptable definitions. All definitions of risk recognize that different degrees of uncertainty are associated with different future events and outcomes. For purposes of this Plan, risk is an expression of the likelihood (i.e. probability) of a negative effect (i.e. hazard) occurring.

Risk Assessment Areas (RAA): Areas within each Planning Unit specific to each tenured activity, that are used in the assessment of the risk related to future development of that activity. The size of the area for each activity has been based on the general area used by that activity in the past. For example, the RAA for shellfish aquaculture is a strip with its outer boundary located 250 meters from the shore because that represents the farthest point of development from the shore currently existing in the Plan Area for this activity.

Risk Assessment Tables: Tables used to summarize information regarding the environmental risk assessment conducted for this plan (see Appendix 8 to view tables)

Marine Sensitive Zone: A marine area that is sensitive to disturbance, including eelgrass beds, herring spawning areas, shellfish beds, marsh areas, existing aquaculture sites, juvenile salmonid rearing areas and adult salmon holding areas.

Shellfish beach culture: Culture of shellfish or plants in or on the beach in the intertidal area between high and low tide. For example, oyster culture is on the beach and in the case of clam culture the animals live in the substrate under the beach surface.

Shellfish off-bottom culture: Culture of shellfish such as oysters and scallops in deep water, offshore of the low tide mark, using floating structures such as rafts or long lines.

Shoreline Type: A summary geomorphic descriptor of the unit that describes a repetitive collection of across-shore components (e.g. rock platform with gravel beach; cliff with sand beach; mudflat).

Sub-tidal shellfish Aquaculture: Culture of shellfish in areas below low tide where the culture is subsurface with no surface floats or structures (e.g. geoduck culture takes place on the seabed in sub-tidal areas).

Tenure: A legal right to occupy and use Crown land under the *Land Act*. A tenure may take the form of a permit, license of occupation or lease. The type of tenure is normally dictated by LWBC policy and conveys different rights, terms and conditions of use and occupancy.

Upland: The terrestrial area extending approximately 200 meters inland from the highest tide line.

Use Code: A number from 1 to 12 assigned to each tenured activity to facilitate data presentation in risk assessment tables in Appendix 7. Each number identifies one activity in each risk assessment tables.

Valued Ecosystem Component: Eight biological values that are considered important components of the marine ecosystem were used in the environmental risk assessment for this Plan. These are: clam beds, eelgrass beds, salmonid streams, kelp beds, CWS areas, eagle nests, estuary and pinniped haulouts. These values were used because they are also considered important in the use of siting and compatibility criteria for agency reviews of site-specific tenure applications (see technical siting and compatibility criteria in Appendix 7) and are found in the Plan Area.

BRITISH
COLUMBIA

VANCOUVER 2010

Reference: 37660
JUL 28 2004

Dear Reader:

As the Minister of of Sustainable Resource Management (SRM), and Minister responsible for Land and Water British Columbia Inc. (LWBC), it is my pleasure to approve the Malaspina Okeover Coastal Plan (MOCP).

This plan has been prepared in accordance with provincial jurisdiction over coastal and foreshore areas of British Columbia's coast. It will assist LWBC and other provincial agencies when considering applications for coastal tenure. It also assists the local communities and the Sliammon (Tla'amin) First Nation by identifying opportunities for sustainable development, conservation and recreation. Importantly, the plan achieves this while respecting the existing blend of community and economic activity that is so much a part of the fabric of this area. It will prove a useful tool for individual development proponents, including local entrepreneurs, by identifying in advance the opportunities for Crown land and marine uses that may be found in the Malaspina Okeover complex.

This plan and the process used in its preparation satisfy the governance principles for sustainability that have been developed by this ministry on behalf of government. I am pleased to note that land development has benefited from positive participation by the Powell River Regional District and the Sliammon (Tla'amin) First Nations Band Council and Treaty Negotiations Team.

As a living document, this plan will likely be subject to variations and amendments, in response to circumstances and new information. I look forward to seeing this plan help fulfil government's objective of strengthening the economy of our rural communities.

Yours truly,

George Abbott

George Abbott
Minister

**Ministry of
Sustainable Resource
Management**

Office of the Minister

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ACKNOWLEDGEMENTS

The Malaspina Okeover Coastal Plan was shaped by the advice and kind support of many individuals. Special thanks are extended to the Powell River Regional District (PRRD) for providing comment on the Plan throughout its preparation and local coordination, in particular Colin Palmer, Chair of the Regional Board, in the early stages of Plan preparation, Len Emmonds (former Regional Director, Area). A special note of appreciation is extended to Patrick Brabazon (PRRD Regional Director, Area A) for his significant contributions to the consultation process for this plan as well as its local review through involvement with the advisory committee and continuous communication with interests in the Plan area.

The Plan has benefited from hard work, insight and advice from a Plan Advisory Committee, set up by the Regional District with assistance from the Ministry of Sustainable Resource Management and composed of the following members: Colin Palmer, (Chair of the Powell River Regional Board)-Co-chair, Denise Smith (Kwy em Tomolx "speaks for her people")-Co-chair, Patrick Brabazon (PRRD Regional Director, Area A), Kees van der Leek and Don Somers (Council of BC Yacht Clubs), Arlene Carsten and Denise Reinhardt (Okeover Rate Payers and Alliance for Responsible Shellfish Farming), Linda Syms (Active Malaspina Mariculture Association), Bernd Scheifele (Tourism Industry), Gary Parkinson (Harbour Authority), Jane Cameron (Powell River Parks and Wilderness Society), Marjorie Harding (Area C Commercial Clam Advisory Committee), Chris Marshman (Powell River Prawn Group), Patrick, Ted Erdmann (Malaspina Community Residents Association) and Adam Vallance (Sea kayakers).

The Plan also benefited significantly from discussions with, and plan review by, the Sliammon (Tla'amin) First Nation, in Particular, Joe Gallagher (Kwun ahmen "Vision"), Senior Negotiator, and, Denise Smith (Kwy em Tomolx "speaks for her people"), Band Councilor and Negotiator.

Several provincial and federal government staff made important contributions to the Plan. Thanks are extended to Barron Carswell, Gary Caine, Jim Russell, Al Castledine, Mark PArsons and Carmen Matthews (MAFF), Duncan Williams, Tom Hillborn, Ken Albrecht, Tyler Brown and Malcolm Leong (LWBC), Barry Miller, Derrick Harbourne and Chris Greenwell (MOF), Tom Bell, Vicki Haberl and Derrick Poole (WLAP - BC Parks), Stu Lewis and Corinne Shepheard of the Treaty Negotiation Office, John Davidson and Kerry Marcus, Department of Fisheries and Oceans (DFO) and Blair Holmes and Ken Brock, Environment Canada (EC).

The Plan was prepared by Joe Truscott (Project Manager and primary author), Chad Egan, John Bones, Graham Winterbottom and Rob Paynter (MSRM, Coast and Marine Planning Branch) with technical and mapping support by Rick Deegan (MSRM, Decision Support Services). Consulting assistance was also provided by Gary Robinson (Socio-economic description) and Coastal and Ocean Resources Ltd. and Archipelago Marine Research Ltd. (Environmental Description).

INTRODUCTION

1.1 Location

The Malaspina Okeover Plan Area is situated on the coast of mainland British Columbia approximately 200 km north of Vancouver (Figure 1). The Plan Area is comprised of the majority of the Malaspina Complex, a coastal basin made up of Malaspina, Okeover, Lancelot and Theodosia Inlets. The Complex extends roughly 10 km from east to west and 15 km from north to south. About 61 km of the Malaspina Complex shoreline is within the Plan Area. A significant portion of the Plan Area is adjacent to Desolation Sound Provincial Marine Park and Malaspina Provincial Park (Figure 2).

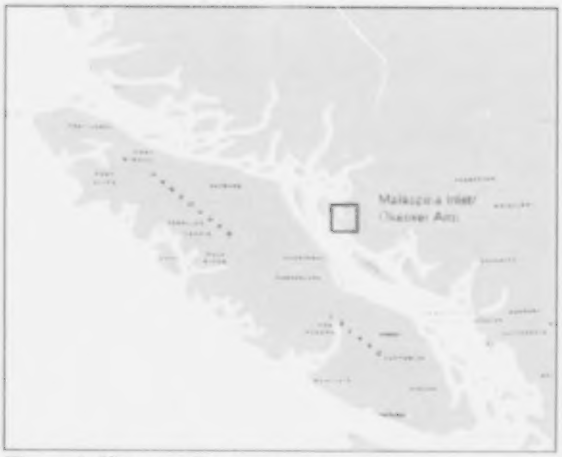

Figure 1. Malaspina Okeover regional setting

Source: MSRM DSS (2003)a

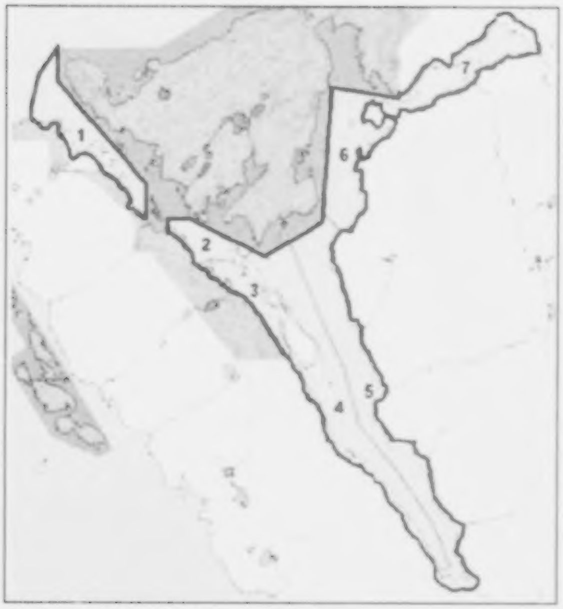

Figure 2. Malaspina Okeover Plan Area

Source: MSRM DSS (2003)a

The Plan Area lies within the traditional territory of the Klahoose and Sliammon (Tla'amin) First Nations and within the administrative boundaries of the Powell River Regional District.

1.2. Plan Rationale and Intent

Many coastal communities in British Columbia have experienced significant economic decline and population loss due to a reduction in industrial forestry and commercial fishing activity. Many of those communities are looking for opportunities to diversify and expand their economies while protecting sensitive resources and values. A priority of the Ministry of Sustainable Resource Management (MSRM) is to use coastal planning to enhance sustainable economic development opportunities of coastal communities (including First Nations communities) while maintaining environmental and recreational values.

The Malaspina Okeover Plan Area currently supports a range of economic activities. These include commercial fisheries, shellfish aquaculture, log handling and storage, marine transportation, public and commercial recreation as well as upland residential development in the Okeover Inlet area. The Plan Area also contains an array of sensitive resources and cultural values. This Plan was developed to address conflict issues associated with this mix of resource uses (See section 3.15 for an outline of issues raised during the public consultation program for this Plan). This Plan is consistent with the MSRM Governance Principles for Sustainable Resource Management, presented in Appendix 1.

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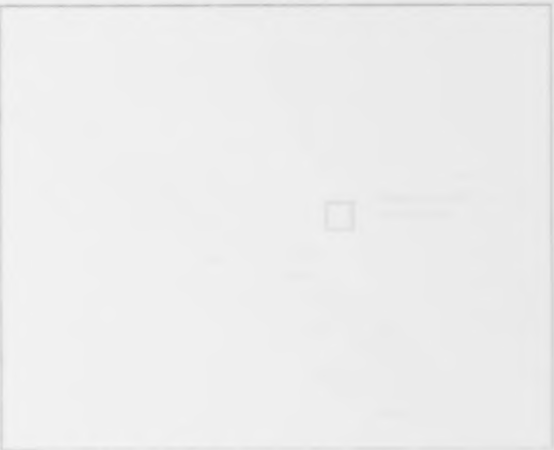

Figure 1. Malaspina Okeover regional setting

Source: MSRM [illegible]

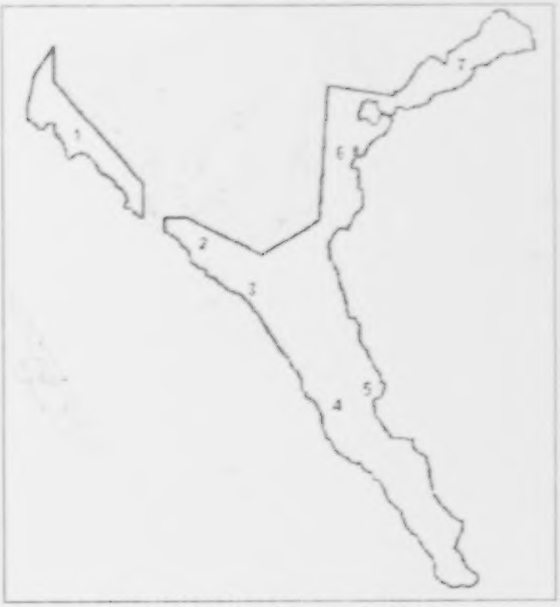

Figure 2. Malaspina Okeover Plan Area

Source: MSRM LSS (2003a)

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1.3. Jurisdiction and Scope

Jurisdiction in the coastal zone is complicated by the relationship between land (including seabed) ownership and legislative authority over resources. There is a common public misconception that the Province has no jurisdiction or role in coastal management, due to federal government authority over fisheries management, marine mammal management, migratory birds, and marine transportation and safety, and the high profile of these issues in coastal communities.

The Province, however, is an important land owner in the coastal zone. The Province owns the foreshore (intertidal) areas of its coastline. In addition, the Province owns coastal "inland waters", or waters "within the jaws of the land" (*intra fauces terrae*), and the lands covered by these waters. Inland waters are waters within an indented coastline, such as harbours, bays and estuaries, including areas between headlands along the outer coast. The Supreme Court of Canada, in a 1984 decision, also confirmed the Province's ownership of the waters and the lands, minerals and other natural resources of the seabed and subsoil in the Georgia, Juan de Fuca, Johnstone and Queen Charlotte Straits. Thus, many intertidal and sub-tidal areas are also owned by the Province, including those in the Plan Area.

Offshore areas along British Columbia's western coastline from the low water mark, or from the boundaries of inland waters, seaward to the territorial limit are owned by the federal government.

Accordingly, the Province's ownership and legislative jurisdiction over such matters as the management of provincially owned public lands provide the rationale for provincial coastal planning, park and ecological reserve establishment, and tenure of coastal foreshore and inland waters.

Local governments and private property owners may also influence coastal management activity through zoning by-laws, regulations and development requirements, and upland owner riparian rights. The land adjacent to the Plan Area as well as the marine areas within the Plan Area is currently not covered by an Official Community Plan or zoning by-law.

First Nations may have Aboriginal rights, including title, that may be potentially affected by coastal developments, and which must be taken into account by the provincial government in the decision making process for foreshore and nearshore use applications. Provincial consultation policies reflect recent court decisions and require provincial agencies to seek to accommodate First Nations interests in land use decision making processes. In this context, agencies use current Provincial and agency policy for consultation with First Nations when reviewing tenure applications.

The Plan Area includes Traditional Territories of the Sliammon (Tla'amin) First Nation, which has been involved in government-to-government discussions and draft Plan review with MSRM throughout Plan development. This First Nation is also currently involved in treaty negotiations with the provincial and federal governments. The Sliammon (Tla'amin) First Nation has made claims of rights and title over land and waters in the Plan Area and continues to exercise these asserted traditional Aboriginal rights throughout the region. An Agreement in Principle (AIP) has been struck between Sliammon (Tla'amin) and the Province and, based on a recent Sliammon (Tla'amin) vote supporting the AIP, the document was signed by both the Province and the Sliammon (Tla'amin) First Nation (see following websites for further information on this First Nation and details regarding treaty negotiations: [http://www2.news.gov.bc.ca/nrm_news_releases/2003TNO0038-001073-Attachment1.htm] and [http://thesunshinecoast.net/sliammonband/].

As a Treaty-Related Measure the Province has developed a Memorandum of Understanding with the Sliammon (Tla'amin) that has reserved several marine areas for shellfish aquaculture for a ten year period during which the Sliammon (Tla'amin) will be able to apply for land tenure for shellfish aquaculture.

The Plan Area is highly significant to the Sliammon (Tla'amin) due to its proximity to both the Treaty Settlement Lands identified in the AIP and to Sliammon (Tla'amin) Indian Reserves #4 and #5. The Plan takes into account the existence of these reserves as well as adjacency of treaty settlement lands to marine areas and can be amended in the future to account for Treaty provisions as required.

The Sliammon (Tla'amin) have expressed interest

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1 This overview is neither a legal interpretation, nor a position statement of the Province of British Columbia; nor does it address First Nations' rights and title issues.

in co-management within the Plan Area. Final Agreement negotiations regarding Sliammon (Tla'amin) First Nation's role outside of Sliammon Lands are currently under way. The Province has not yet come to agreement with the Sliammon Treaty Society on what constitutes co-management and to what related arrangements the province is prepared to make. This is an issue that is outside the scope of this Plan and will be left to be addressed during Treaty negotiations.

The Klahoose First Nation also has Traditional Territories within the Plan Area.

This Plan provides recommendations for acceptable uses on waters in intertidal and sub-tidal areas. These recommendations address a range of tenure programs that are administered by Land and Water British Columbia Incorporated (LWBC). The Plan also addresses recreation and conservation values that should be reserved or limited with respect to tenure opportunities. The Plan does not replace the tenure referral process of LWBC, nor does it imply that types of applications deemed acceptable in the Plan will be approved by LWBC after the referral process is completed.

This Plan does not make recommendations regarding use of private land, federal land, or Indian Reserves. Its recommendations and the participation of the Sliammon (Tla'amin) First Nation are not intended to limit any treaty negotiations or settlements that may occur respecting foreshore and nearshore rights, ownership or uses. Its recommendations are also not intended to alter or interfere with provincial legislation or by-laws enacted by the Powell River Regional District (PRRD); although it is preferred that any PRRD plans developed within the Plan Area be consistent with this Plan.

1.4. Planning Process

The planning process used to develop and complete the Malaspina Okeover Coastal Plan is generalized in Table 1. The process was led by government staff and took a consultative approach to public and interest group engagement, rather than consensus-based negotiation using stakeholder planning tables.

Consultation with the public took place primarily

Table 1. Generalized process and schedule for the Malaspina Okeover Coastal Plan

April 2002	Confirm provincial technical team and terms of reference Confirm process with Sliammon (Tla'amin) First Nation and local government. Initial contact with Klahoose First Nation.
April/May 2002	Develop and acquire resource data and appropriate map products Establish plan advisory committee comprised of representatives of Sliammon (Tla'amin) Band Council, stakeholders, and Powell River Regional District (PRRD) representatives
May 2002	Hold initial discussions with advisory committee Hold first Plan open house
May/Sept 2002	Follow-up meetings with Sliammon (Tla'amin) and Klahoose First Nation representatives, advisory committee and stakeholders to discuss process and resource maps
June/September 2003	Develop draft plan with Planning Unit recommendations and review with advisory committee
October 2003	Review draft Plan products with Sliammon (Tla'amin) Technical staff
October - December 2003	Develop second draft Plan, including environmental assessment of the Plan
January 2004	Review second draft Plan with Advisory Committee Review second draft Plan with Sliammon (Tla'amin) First Nation
January - February 2004	Prepare third draft Plan Post draft Plan on website
February 2004	Review draft Plan with stakeholder groups, government agencies; make appropriate revisions Complete final economic and environmental assessment of the Plan Hold final public open house & meeting with advisory committee
February 2004-June 2004	Final review and refinement of draft Plan with agencies and Sliammon (Tla'amin) staff Formal review by Powell River Regional District
June 2004	Sign-off by Minister of SRM Public announcement of Plan

through public open house meetings, held on June 26, 2002 and February (11), 2004.

The Plan was also reviewed with, federal government agencies, the Powell River Regional District, First Nations governments, interest groups, stakeholders and industry associations at various stages of the process. A list of these groups and meetings is provided in Appendix 2.

MSRM assisted the PRRD in establishing a plan advisory committee to provide feedback on the draft Plan to the Province and the Regional District Board. That advisory committee met on several occasions between June 2003 and February 2004. Advisory group meetings were open to the public and took place in Lund and Powell River.

Federal and provincial agencies provided important advice and information during Plan development. In addition, a number of provincial agencies participated in final review of the Plan, prior to its approval. A listing of participating provincial and federal agencies is provided in Appendix 2.

The Plan encompasses traditional territories of both the Sliammon (Tla'amin) and Klahoose First Nations. Provincial staff held a number of discussions with representatives of the Sliammon (Tla'amin) First Nation regarding development of the Plan. The Sliammon (Tla'amin) First Nation also reviewed and commented on drafts of this Plan, and functioned as Co-Chair of the advisory committee. The Klahoose First Nation were invited to participate in the Planning process at the outset and also to comment on the drafts of the Plan at the end of the process. While the Klahoose chose not to participate in the planning process they did agree to review the final draft of the Plan.

PLAN AREA DESCRIPTION

The Malaspina Okeover Coastal Plan Area is a coastal basin encompassing Malaspina, Okeover, Lancelot and Theodosia Inlets. The Plan Area does not include Desolation Sound Provincial Marine Park. There are almost 100 km of shoreline within the Malaspina Complex, 61 km of which are within the Plan Area. The remaining shoreline is within the boundaries of Desolation Sound Provincial Marine Park, BC's largest marine park.

2.1. Physical and Oceanographic Features

■ LANDSCAPE ■

Figure 3. Entrance to Malaspina Inlet Source: MSRM; CMPB (2002)b

The Plan Area lies at the edge of two major tectonic regions within the Province - the Georgia Depression and the Pacific Range.

The Malaspina Complex is located within the Georgia Depression physiographic region, but the Theodosia River watershed, draining into the Complex, is situated within the Pacific Range physiographic region, immediately to the east of the Plan Area. These two regions are part of the Coastal Mountain range, which fringes the majority of the BC coast. Almost all lands adjacent to the Inlet Complex are low relief with a few exceptions near the eastern shores of Okeover Inlet and the southern and northern shores of Theodosia Inlet.

The entire Complex area is underlain by intrusive granitic rocks, but a few areas immediately to the west, such as Texada, Twin and Hernando Islands, are primarily sedimentary composites, common within the Georgia Basin.

Heavy glaciation produced the steep valleys throughout most of the Coastal Mountain range in British Columbia. Glaciers deposited glacial drift, a mixture of well-sorted outwash; as well as, poorly-sorted blankets of till, a mixture of boulders, cobbles, sand and silt. These deposits along the coast later became weathered through wave action, leaving coarse boulders and cobbles along the majority of BC's coastal beaches. However, some places along the coast, including the Plan Area have small sand or fine gravel beaches associated with more protected (low exposure) areas, where fine sediments are able to accumulate.

■ CLIMATE ■

No climate stations exist within the Plan Area. Climatic trends are therefore based on nearby Comox, Cortes Island, Nanaimo and Powell River climate stations.

Winters are relatively mild for the Inlet Complex with mean monthly temperatures usually around 2.5°C (Figure 4). Historically, ice has formed over the complex for short periods in the past during colder months of the year. However, typically freezing only occurs near the heads of Okeover and Theodosia Inlets where freshwater inflow makes marine waters more susceptible to freezing.

Summers are usually cool with mean monthly temperatures around 17°C. Neighbouring Desolation Sound has been recognized as one of the warmest marine water areas within the Province. Subsequently, surrounding areas are renowned as prime tourist destinations and some of the most productive shellfish growing areas in the Province.

Precipitation for the Powell River area averages about 1070 mm per year, with summer months being drier than winter.

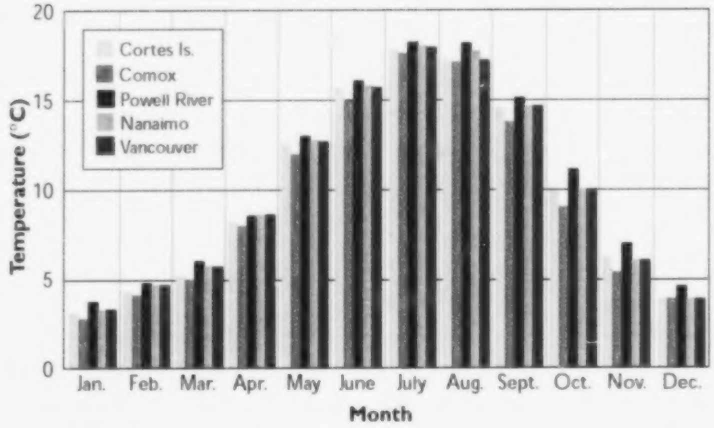


Figure 4. Mean monthly temperatures for Powell River.

Data source: Environment Canada (2003)[c]

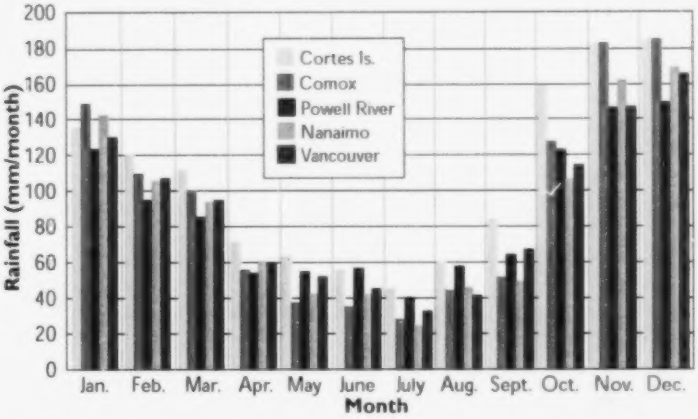


Figure 5. Mean monthly rainfall within communities adjacent to the Plan Area.

Data source: Environment Canada (2003)[c]

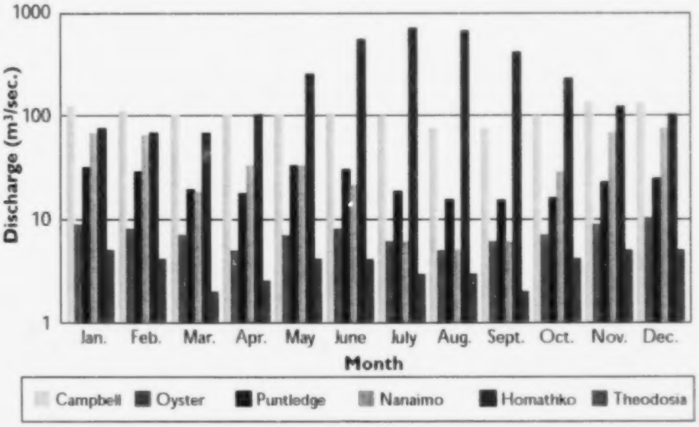


Figure 6. Stream discharges adjacent to the Plan Area. Mean monthly discharge for Theodosia River ranges between 2.0 and 4.9m3/sec. Note: scale was converted to logarithmic for graphing purposes. Data source: Inland Waters Directorate (1989)[d]

Annual rainfall for the area is similar to the rest of the Georgia Strait with minima, roughly 45mm occurring in July and maxima, roughly 150mm occurring in December (Figure 5). Stream discharge patterns for most coastal rivers follow this precipitation cycle, making precipitation a significant determinant for marine water temperature, salinity and turbidity values.

■ WATERSHEDS AND RUNOFF ■

Runoff for coastal streams varies markedly with stream size. Variations in stream discharge can be significant if the stream's watershed is supplied by melting snow pack from surrounding mountains. The discharge of a small stream typically follows precipitation patterns closely. However, larger streams, for example the Homathko, a flood peak usually occurs in summer months coinciding with melting snow packs (Figure 6).

The total drainage basin area surrounding the Malaspina Complex is roughly 275 km2. The drainage basin for the Theodosia River accounting for 153 km2 (about 55% of this) is the largest drainage basin adjacent to the Plan Area. The Theodosia however, is still considered a smaller stream in comparison to others and subsequently its stream discharge rates reflect the local precipitation regime (Figure 7).

In 1956, Powell River Energy constructed a diversion dam on the Theodosia River to divert water for a hydroelectric dam in the Powell Lake system (Figure 8).

Energy for the hydroelectric dam was required by Macmillan Bloedel's nearby pulp and paper mill (now owned by Norske Canada) and resulted in a 70% reduction in natural flow of the

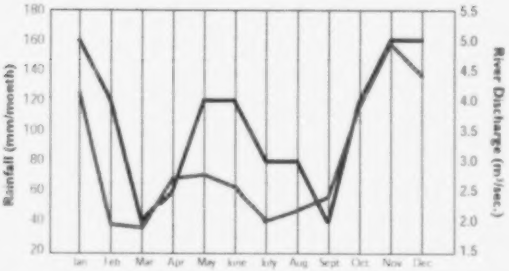


Figure 7. Relationship between rainfall and river discharge for the Theodosia River. Data source: Environment Canada (2003)[c] and Inland Waters Directorate (1989)[d]

Theodosia River. Diversion of the water came under public scrutiny in the late 1980s when concerns were raised over environmental impacts on fish habitat resulting from the discharge reduction.

Sliammon (Tla'amin) First Nation and several other environmental interest groups began negotiations with the Province and Powell River Energy however; an agreement was never reached between the company and the Province. In 2003 Sliammon (Tla'amin) First Nation began direct negotiations with Pacifica Paper Inc. and came to an agreement to restore partial discharge within the River.

Construction on the restoration project was completed by Sliammon (Tla'amin) Construction in September 2003. The Sliammon Salmon Enhancement Society has and intends to continue with its efforts to restore habitat and flow as well as enhance salmon in the Theodosia Watershed and Inlet. This includes plans for a salmonid rearing facility within Theodosia Inlet. Sliammon (Tla'amin) hopes this facility will rejuvenate indigenous salmon stocks lost due to the initial construction of the diversion dam in the 1950s. The Band also has future plans for salmon enhancement and habitat restoration in Okeover Creek which runs through IR #5.

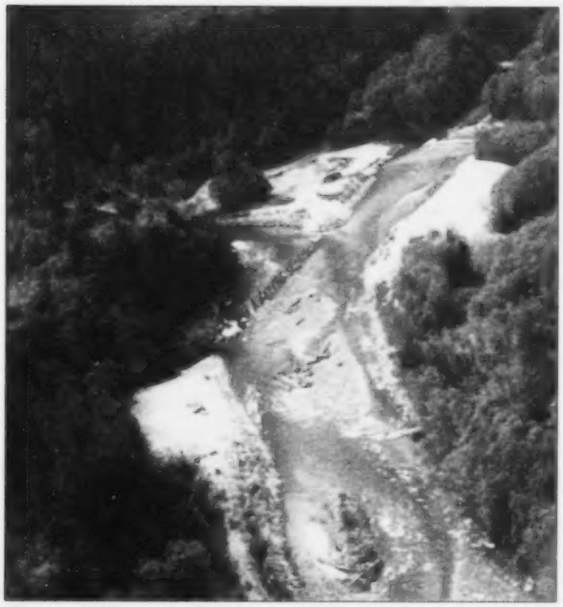


Figure 8. Theodosia River diversion dam.
Source: Sliammon (Tla'amin) Treaty Society (2003)[e]

■ WIND AND WAVES ■

Wind patterns within the general area are dominated by bipolar northwesterly and southeasterly winds; however patterns can vary considerably depending on coastline topography. The measured mean annual wind direction for Comox consists of an east to west pattern (Figure 9). In examining stronger winds, a regional bipolar wind pattern can be observed, which is consistent with the rest of the Strait of Georgia (Figure 10).

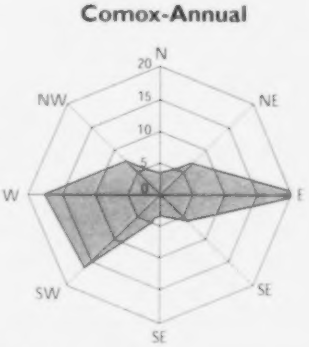


Figure 9. Direction frequency as a percentage of all winds. Comox Airforce Base. Source: Canadian Hydrographic Service (1990a)[f]

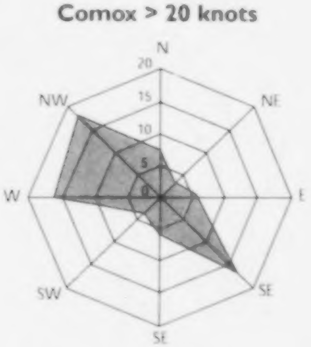
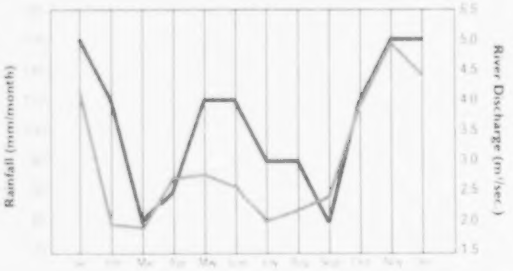


Figure 10. Direction frequency as a percentage of all strong winds (>20 knots). Comox Airforce Base.
Source: Canadian Hydrographic Service (1990a)[f]



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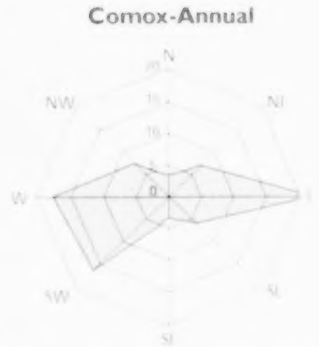

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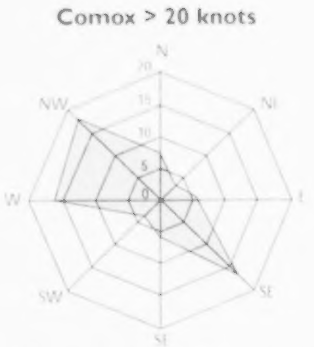

Figure 10. Direction frequency as a percentage of all strong winds (>20 knots). Comox Airforce Base.
Source: Canadian Hydrographic Service (1996a)[f]

Winds can be an important determining factor in surface currents, and in creating wind waves. Locally-generated waves occurring within the Complex are strongly related to these wind patterns. Local wind patterns can often be anomalous due to funneling effects from surrounding topography. Local area residents have reported heavy wave action occurring in Okeover Inlet as a result of southerly and south-easterly winds funneling in, over relatively low hills in the southern end of the Plan Area.

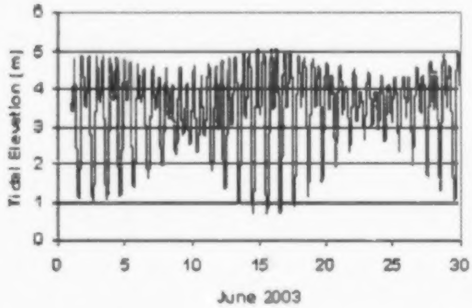

Figure 11. Tidal amplitude for Okeover Inlet. Source: Canadian Hydrographic Service (1990a)[f]

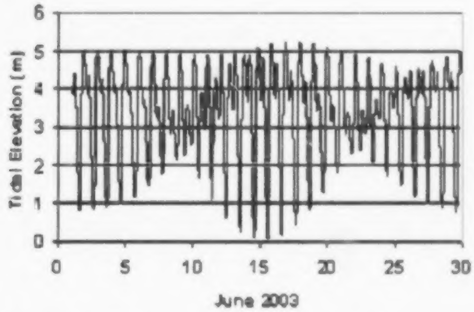

Figure 12. Tidal amplitude for Lund. Source: Canadian Hydrographic Service (1990a)[f]

■ CURRENTS AND TIDES ■

Tidal currents of between 2 and 4 knots occur in narrower portions of Malaspina Inlet, but currents are described as weak throughout the remainder of the Plan Area. Tidal range for the Complex is roughly 4m (Figure 11), compared to approximately 5m outside the Complex area (Figure 12). The difference in tidal amplitude is due to extreme low tides, which occur outside the Inlet Complex. Tides are mixed diurnal having two uneven tides each day.

■ BATHYMETRY AND SHORE TYPES ■

Marine waters enter into the Complex through Malaspina Inlet, over a sill depth of approximately 13m. The seafloor has numerous submerged basins throughout the Complex ranging from 22 to 135m in depth (Table 2). The basins serve as sediment sinks for surrounding watersheds, but could potentially also serve as contaminant sinks for marine or upland sources of water pollution. Flushing of the basins is not well documented; however given shallow sill depths and low velocity tidal currents, little flushing of the Complex likely occurs.

Table 2. Basin and sill depths within the Malaspina Complex.

Basin Location	Depth (m)	Sill Depth (m)
Malaspina Inlet	68	13
Grace Harbour	22	14
Okeover & Lancelot Inlets	135	20
Theodosia Inlet	37	2

Source: Canadian Hydrographic Service (1990b)g.

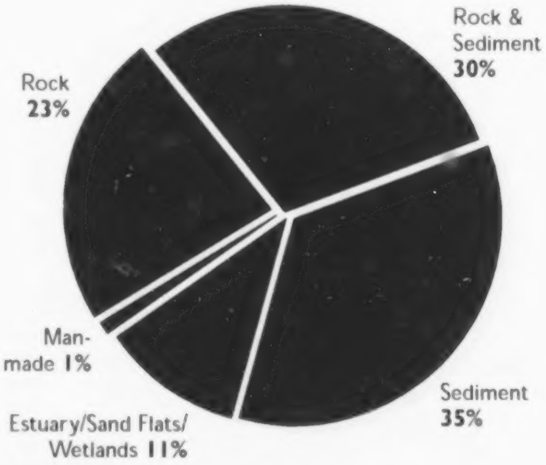

Figure 13. General shore types within the plan area. Source: MSRM; DSS (1994 2000)[h]

Basin sediments are believed to consist of mud in most areas, but not all areas have been surveyed thoroughly. Substrates near the entrance to the Complex, where Malaspina Inlet meets the Strait of Georgia are primarily rocky shoals and reefs with some coarse gravel deposits overlaid. Stronger wave action and tidal currents transport smaller-sized sediment away from these areas, allowing for rock substrates or combinations of coarse gravel and rock to predominate. Exceptions to this are smaller side basins within the Inlet, such as Trevenen Bay or Grace Harbour, which more readily accumulate smaller sediments, similar to the rest of the Plan Area.

The Plan Area has roughly 61 km of shoreline. Shoreline morphology along the perimeter of the basins is considerably complex and diverse. Some shorelines having granitic outcrops forming steep cliffs and ramps, while others have a thin mantle of glacial deposit laid overtop of the bedrock. A large portion of the shoreline is composed of weathered glacial sediment forming a coarse veneer of cobbles over top of variable-sized sand and gravel. Estuaries, including wetlands in the upper intertidal zone and sand and gravel flats in the mid and lower intertidal zones are associated with smaller streams at the head of Okeover and Theodosia Inlets. Sand beaches are relatively rare accounting for less than 10% of the Plan Area shore length. Most of the man-made shoreline is along the south side of Theodosia Inlet, associated with log handling and storage facilities, however, other portions of modified shoreline occur throughout the Plan Area. The occurrence of generalized shore types is summarized in Figure 13 and a more detailed description is provided in Figure 14.

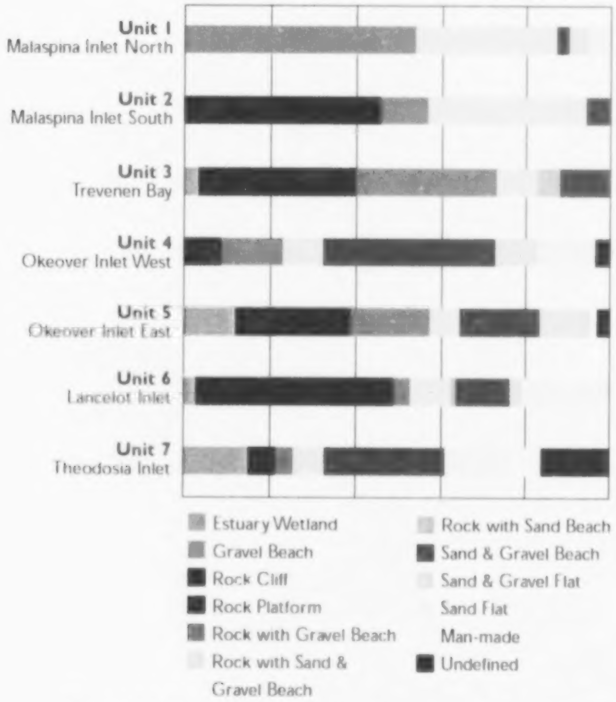

Figure 14. Shore type distributions over the 7 Planning Units. Source: MSRM; DSS (1994 - 2000)h.

2.2. Biological Features

■ SHORE ZONE HABITAT ■

Shore zone habitat is primarily determined by the level of wave exposure relative to the shore and the type of substrate being impacted by wave and tidal action along the coast. The Malaspina Complex has very low exposure with little influence from the Strait of Georgia. As mentioned previously, substratum within the Complex consists mainly of four types: rock, a mixture of rock and sediment, sediment and estuary (Figure 17). Estuaries or lagoon substrates are similar to sedimentary substrates, but have deposits of organic material from decomposing flora and fauna material.

Mobile substrates such as sand or small gravel prevent the development of attached perennial flora and fauna. Immobile substrates, such as bedrock or large boulders, typically have well developed attached flora and fauna species, and respective species' associations are largely determined by wave exposure levels.

Intertidal and shallow, subtidal rocky reefs provide a highly complex substrate and are subsequently important for groundfish such as lingcod and other rockfish species. These reefs also provide diverse habitat for micro and macro algae, benthic invertebrates and many other species including a variety of non-commercial fish. This is especially true of highly exposed or high current areas.

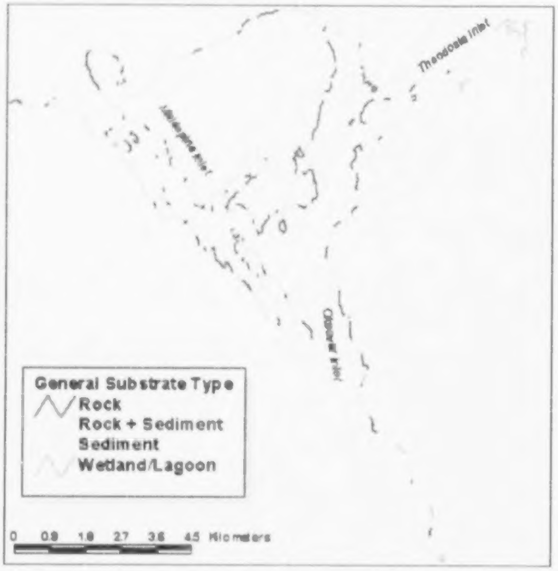

Figure 17. General substrate-type distribution for the Malaspina Okeover Plan area. Source: MSRM; DSS (1994-2000)h

Soft substrates, such as intertidal mudflats and sand beaches provide habitat for invertebrate species living within the substratum (infauna such as clams, worms and burrowing crustaceans). These infaunal species are extremely important food sources for shorebirds and other waterfowl.

Soft substrate types are especially evident in estuarine areas where stream discharge deposits mobile sediment at the mouth of the stream, where it enters into the marine environment (Figure 18).

Intertidal habitats in Malaspina, upper Okeover and the eastern side of Lancelot Inlets are a mixture of rock, rock with beaches and pocket beaches. Most of these shores are classified as protected exposure. Algal communities in Malaspina Inlet are dominated by canopy forming kelp (i.e. bull kelp). Protected sediment (mostly gravel) beaches dominate southern Okeover and Theodosia Inlets. The Plan Area has two large tidal flats, at the heads of Theodosia and Okeover Inlets.

Figure 18. Estuary at the head of Theodosia Inlet.

Source: MSRM: CMPB (2002)[b]

■ PROTECTED ROCKY HABITAT ■

Protected rocky habitat can either be a mixture of rocky intertidal and shallow subtidal or rock with beaches and pocket beaches, or a combination of the two. Most rock and mixed rock with sediment shores along Malaspina Inlet, upper Okeover Inlet and the eastern shore of Lancelot Inlet occur in areas of low wave exposure. Communities typical of protected rocky shores include assemblages of attached plants and invertebrates, usually showing vertical intertidal zonation. Upper intertidal zonation includes acorn barnacles, rockweed (*Fucus*), Pacific oysters and blue mussels, while the lower intertidal zone has a low turf of mixed red algae, Japanese weed (*Sargassum*) and bladed kelps (*Laminaria spp.*). Around Myrmidon Point, Beulah, Josephine and Thorp Islands, near the entrance to Malaspina Inlet, tidal currents generate higher species diversity than less exposed areas within the Complex.

■ PROTECTED BEACHES AND TIDAL FLATS ■

In areas of protected wave exposure, intertidal shorelines may look bare of attached biota. In upper intertidal zones, particularly at the head of bays associated with freshwater streams or seepages, areas of salt-tolerant herbs and grasses form a distinct wetland species assemblage. The head of Okeover and Theodosia Inlets are characterized this way and considered protected tidal flats. Biota of these protected bays and inlets typically include acorn barnacle and rockweed (*Fucus*) on large cobbles and boulders as well as eelgrass (*Zostera spp.*) in the lower intertidal mud. Associated invertebrates include various species of crabs, moon snails and clams. The larger intertidal clam beds and eelgrass beds within the Plan Area occur within these habitats.

■ MARINE PLANTS ■

Marine plant groups consist of (A) microscopic marine floating algae or "phytoplankton", (B) marine vascular plants or "sea grasses," and (C) marine attached algae or "seaweeds".

Phytoplankton provides the basis of the ocean food web. These minute, single celled plants are eaten by zooplankton, which in turn are food for fish and larger invertebrates. Phytoplankton are present in all marine waters, and their abundance varies seasonally with the availability of light and nutrients. When nutrients and light are optimal, high concentrations of phytoplankton "blooms" can occur and may colour the water red, brown or green (e.g. "red tide"). Some species produce potent toxins that concentrate in filter feeding bivalves (clams and oysters) that can cause paralytic shellfish poisoning (PSP) and this is a seasonal public health hazard. Information on shellfish closures may be found at http://www.pac.dfo-mpo.gc.ca/ops/fm/shellfish/biotoxins /closures/default_e.htm

Other species can injure or kill without toxins, such as dinoflagellates with serrated spines that lodge within fish gill tissues.

Eelgrass (*Zostera marina*) is a marine vascular plant that grows in underwater meadows or "beds", and is usually rooted in finer sand substrates. These beds are most commonly found in protected waters in the lower intertidal and shallow subtidal zones, often at the heads of inlets. Eelgrass beds provide important rearing habitat for a variety of fish and invertebrate species including crab, herring and juvenile salmon. They are also extremely productive and play an important role in stabilizing the finer substrates in which they grow. Eelgrass beds are sensitive to many foreshore development activities and are difficult to restore once disturbed. Over the past decade a smaller introduced species of eelgrass (*Zostera japonica*) has been expanding in range within the Strait of Georgia. This species grows at a higher elevation with the intertidal zone than the indigenous eelgrass (*Zostera marina*).

In May 2003 a towed video survey of eelgrass beds was conducted for the Plan Area. This survey built on previous surveys of eelgrass within the Plan Area, including aerial photography and boat surveys. A total of 21 sites (32 discrete eelgrass beds) were identified. The eelgrass beds occurred along approximately 10% of the total Plan Area shore length, encompassing 6.3 hectares. The depth range of the eelgrass beds was +1.5m to -3.5m relative to chart datum, which is typical for eelgrass in the Strait of Georgia. Many of these beds are small in area and eelgrass plant cover within the beds is low and patchy in distribution. Five sites (the head of Trevenen Bay, south end of Coode Peninsula, the west side of Okeover Inlet, an area north of Lucy Rock, and the head of Okeover Inlet) account for 75% of the total eelgrass beds within the Plan Area. No eelgrass beds were identified within Theodosia Inlet; however, the small bed just outside of the Inlet (Site 21) had one of the more dense covers of eelgrass within the Plan Area. Other beds with continuous (as opposed to patchy) eelgrass coverage were observed west of Beulah Island, the head of Trevenen Bay and at the south end of Coode Peninsula. The detailed report and maps from this survey are available athttp://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm

Salt marsh communities (*Salicornia* and *Distichlis*) often occur at the heads of bays or along sections of shore with freshwater seepage. Like eelgrass beds, marsh communities are biologically productive and important for fish and wildlife habitat. They are also sensitive to human disturbances including the alteration of runoff patterns or physical disturbances. Salt marsh or wetlands are usually associated with freshwater runoff including estuaries and smaller stream mouths. In some areas, particularly the central and north coast of British Columbia, smaller salt marshes are often perched over rock ramps in areas with freshwater seepage. Aerial video surveys have identified wetlands, likely containing salt marshes, along 11% of the Plan Area's shoreline (Figure 16)1. The largest wetland is located at the head of Theodosia Inlet, with smaller wetlands on the eastern side of Okeover Inlet and southwest of Beulah Island.

Canopy forming kelp beds (*Nereocystis* or bull kelp) are uncommon in most of the Plan Area except within Malaspina Inlet (to the north end of Coode Peninsula) where bull kelp beds occur around many of the rocky islets, reefs and points. This is typical of mainland inlets and fjords, where fringing bull kelp beds generally occur only near the inlet entrance. Smaller beds also occur along the east side of Coode Peninsula and at the entrance to Theodosia Inlet just inside Galahad Point.

The rocky shores of the Plan Area support a diversity of algal species which often occur as vertical bands distributed across the intertidal and shallow subtidal zone. Characteristic algal bands within the Strait of Georgia include rockweed (*Fucus*), Japanese weed (*Sargassum*), green and red algal species (particularly *Ulva* as well as a host of red algae species) and bladed kelps (*Laminaria spp.* and *Agarum spp.*). Algal diversity and cover is generally greater around complex rocky substrates or high current areas such as Malaspina Inlet (around Myrmidon Point), the Josephine, Beulah and Thorp Islands, Cavendish Rock, the entrance to Okeover Inlet (Isbister Islands/Selina Point), and Galahad Point.

■ SHELLFISH AND INVERTEBRATES ■

The Plan Area contains a variety of invertebrate species, which are harvested for commercial, First Nations food fisheries, and recreational use. Intertidal clams are the most commonly harvested bivalve within the Plan Area mainly littleneck, manila and butter clams. These species generally occupy mixed substrates of gravel, sand, mud and shell within the intertidal zone. Manila clams are found slightly higher in the intertidal zone than littlenecks, and butter clams occupy the subtidal zone.

Regionally significant clam beds occur at Freke Anchorage (head of Okeover Inlet), on the west side of Okeover Inlet near the public wharf and at the head and entrance to Theodosia Inlet. Numerous smaller beds occur along the shores of Grace Harbour and Malaspina Inlet. Many areas throughout the Strait of Georgia, including the Plan Area, are subject to seasonal and permanent closures for harvesting bivalves. Closures occur as a result of sanitary conditions (See Canadian Shellfish Sanitation Program in Acronyms and Definitions) or marine toxins such as PSP (red tide). Being an enclosed inlet system, PSP closures are relatively common for the Plan Area. Currently, a year round sanitary closure occurs at Freke Anchorage and a seasonal closure at Grace Harbour (outside the Plan Area). Information on shellfish contamination closures can be found at: http://www.pac.dfo-mpo.gc.ca/ops/fm/shellfish /biotoxins/closures/default_e.htm

Geoducks are large clams that occur in the lower intertidal and subtidal zones to depths of over 100 metres. They are found in sand and gravely sand substrates and have been commercially fished by divers since the 1970's. The commercial geoduck fishery is the most valuable invertebrate fishery in British Columbia in terms of landed value. Geoducks are harvested on a three year rotational basis, with fisheries planned for the Strait of Georgia in 2003, 2006 and 2009.

There are several small commercially harvested geoduck beds throughout the Plan Area. Specific locations of these beds are confidential. This information is held by Department of Fisheries and Oceans and the Underwater Harvester's Association.

There is also an active shellfish aquaculture industry in the Plan Area, given the area's proximal infrastructure combined with ideal biophysical conditions for culture The primary species of culture is the Japanese oyster using either beach or off-bottom technology. To a lesser extent Manila clams are also cultured using beach technology only. Shellfish aquaculture growing areas are subject to the same Canadian Shellfish Sanitary Program requirements as are wild bivalve shellfish growing areas.

Dungeness crabs are found to depths up to 100 metres often in moderate to strong current areas with sandy bottoms. Abundant in estuaries and more exposed areas, crabs are usually fished by trap. There is an active commercial crab fishery in the area, however landing and value data are protected under the federal *Access to Information and Privacy Act*. Several species of shrimp are found within the Plan Area. Shrimp and prawns are harvested recreationally by traps and commercially by trawl gear (pink shrimp) or traps (prawns). They are usually generally found close to the sea bed, although some species range throughout the water column. The Plan Area (DFO Statistical Area 15-4) is not a significant shrimp trawling area, and no shrimp trawl activity has been recorded for the area in 2001 or 2002.

Prawns are the largest and most commercially lucrative of the Pacific coast shrimp species. Primarily bottom dwellers, their typical habitat includes the steep slopes of coastal fjords at depths between 75 and 150 meters. They are commercially fished using traps set individually or on longlines and this fishery has become increasingly active in the Plan Area. The commercial season is about 3 months long coast wide and managed through minimum size and trap limits and extensive on-grounds sampling to track the relative incidence of spawners in the catch.

Red and green sea urchins are also found in the Plan Area, generally in shallow areas with rocky substrates, moderate wave exposure and moderate to strong currents. Urchins graze extensively on algae, which in some locations results in the drastic reduction of kelp and other seaweed beds. Urchins are commercially harvested by divers and processed for roe.

There are a number of sea cucumber species in the Plan Area, although the giant red (California) sea cucumber is the largest and the only species commercially harvested. It is found from the intertidal zone to depths of about 250 meters, on a variety of different substrates. Sea cucumbers are harvested by divers, usually during autumn and winter. Commercial harvesting has been limited to 25% of the BC coast since 1998 due to a lack of information on population sizes. The Plan Area is currently a closed area for commercial harvesting of sea cucumbers.

A broad variety of these shellfish, including all clam species, sea cucumbers, prawns, shrimp and green and red sea urchins, are very important to the Sliammon (Tla'amin) First Nation as traditional fisheries. This First Nation has stated that its ability to exercise its Aborginal Rights to food gathering has been limited in a number of areas by private ownership within its Traditional Territory.

■ SALMON AND OTHER FINFISH ■

The Plan Area itself is not considered a significant groundfish area and no fish trawl records exist for the area (Sub-area 15-4; Figure 19)m. However, much of the Strait of Georgia, outside of the Plan Area is currently closed to commercial lingcod fishing; and a number of rockfish conservation areas have been established here by DFO. No rockfish conservation areas exist in the Plan Area at present.

Herring, an important forage fish within the Strait of Georgia, has a commercial herring roe fishery which takes place in March or April of each year. Herring spawn on a variety of different substrates, including algae and eelgrass within the intertidal and shallow subtidal zones, during the month of March. Agency approvals for foreshore construction activity often restrict activities during the herring spawn time each year.

The Plan Area is not an important spawning area for herring. However, there are a few spawning records for Okeover and Malaspina Inlets in the 1930's and 1940's, but even at that time, no major spawning was recorded. Information on herring spawn locations in British Columbia may be found at:
http://www.pac.dfo-mpo.gc.ca/sci/herring/bulletin_e.htm

The federal/ provincial salmon spawning database shows spawning records for two streams within the Plan Area, Theodosia River and Tohk natch Creek. Information on salmon spawning areas within BC waters may be found at:

http://pisces.env.gov.bc.ca/FishWizardFrames.asp

No other streams are listed as salmon spawning streams, but local information may identify additional streams within the Plan Area. Pink, chum and coho currently spawn in the Theodosia River, and occurrences of chinook and sockeye spawning has also been documented in the past. Several thousand coho spawned in the river in the 1950s and 60s and peak chum escapements were 10,000 to 30,000 in the 1960s and 1970s. Spawner escapement was likely even higher prior to the construction of the diversion dam in 1956. Current coho spawner escapement is far below historic levels. However, a recent construction project completed in September 2003 by Sliammon (Tla'amin) First Nation in collaboration with Pacifica Paper Inc. is expected to partly restore salmon habitat within the Theodosia River.

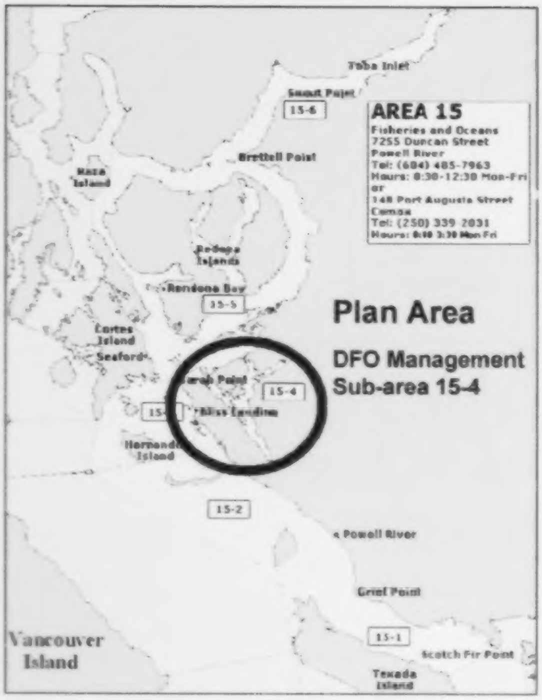
Toba Inlet
Sarah Point
15-6
AREA 15
Fisheries and Oceans
7255 Duncan Street
Powell River
Tel: (604) 485-7963
Hours: 8:30-12:30 Mon-Fri
or
148 Port Augusta Street
Comox
Tel: (250) 339 2031
Hours: 8:00 3:30 Mon Fri
Brettell Point
Maze Island
Redonda Islands
Refuge Cove
Rendona Bay
15-5
Plan Area
DFO Management Sub-area 15-4
Cortes Island
Seaford
Sarah Point
15-4
15-3
Bliss Landing
Hernando Island
15-2
Powell River
Grief Point
15-1
Scotch Fir Point
Vancouver Island
Texada Island

Figure 19. DFO Management Area 15 and Sub-area 15-4 (the Malaspina Complex). Source adapted from DFO (2003a)[111]

Tohk natch Creek supported several hundred coho spawners in the 1960's and 70's, and chum escapement to the creek has peaked at over 5,000 spawners. Juvenile chum, pink and chinook salmon all rear in nearshore habitats (eelgrass beds and other vegetated areas) throughout the Plan Area. This occurs for several weeks to months in the spring after moving from natal streams to the marine environment. Information on specific salmon species may be found at: http://www-comm.pac.dfo mpo.gc.ca/publications /speciesbook/PacificFishStocks.pdf

MARINE MAMMALS

Orcas or "killer whales" are the most frequently observed cetacean (whales and dolphins) species within the northern Strait of Georgia. Most sightings are of "transient" populations, which are distinct from "resident" and "offshore" populations. Orcas are less common in this area than in the northern waters of Queen Charlotte Sound and the Johnstone Strait.

Humpback whales, Gray whales and Minke whales may occasionally be observed in the waters of Desolation Sound and the surrounding area. Historically there was a small, resident population of humpback whales in the Strait of Georgia and there have been several recent records of this species in the Strait. Minke whales are believed to shift northward during the summer months and southward during the winter, frequenting estuaries, bays and inlets. Dall and Harbour Porpoises, as well as Pacific White Sided Dolphin are also observed infrequently in the northern Strait of Georgia. Harbour Porpoises are found in the shallower waters, often in bays, harbours, estuaries and river mouths. Dall porpoises prefer deeper ocean waters where they feed primarily on squid, fish and crustaceans. The Pacific White Sided dolphin prefers deeper offshore water where it feeds on small schooling fish such as herring and hake. Harbour seals are common throughout the year near coastal islands, reefs, sandbars, inlets, estuaries, and river mouths. No data are available for sea lion haul outs or sea lion presence, absence or abundance in the Plan Area. As herring feeders, sea lions generally tend to follow herring, temporally and spatially; therefore, lower herring values in the Plan Area may contribute to the absence or low abundance of sea lions there.

BIRDS

The Strait of Georgia is an important resting and feeding area for spring and fall migratory marine and shore birds. The Strait is also an important over wintering area for many marine birds including loons, cormorants, diving ducks and gulls. These species require continued access to sheltered bays and waterways, including estuaries and marshes. Almost the entire Malaspina Okeover Plan Area is of interest to the Canadian Wildlife Service for migratory bird habitat and more than half of the area is of confirmed use by migratory bird species (Figure 20). Species nesting within the area and adjacent Georgia Strait include glaucous winged gulls, pelagic and double-crested cormorants, pigeon guillemot, marbled murrelets and black oystercatchers; in addition to others.

Longer-term visitors and resident species generally have additional management requirements, such as the protection of specific breeding areas or habitats, and the management of human activity or disturbances at critical times of the year. A more detailed inventory with specific locations of interest is outlined in Table 3 and in each of the 7 Planning Units.

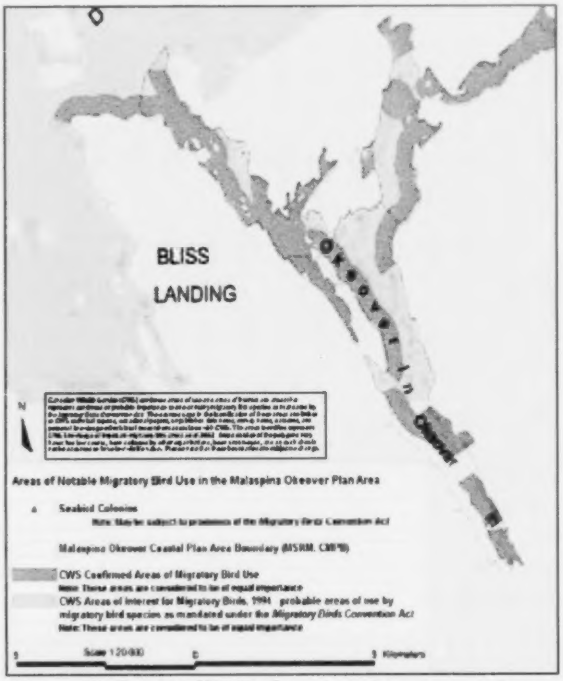
BLISS
LANDING
Okeover Inlet
N
Areas of Notable Migratory Bird Use in the Malaspina Okeover Plan Area
Seabird Colonies
Malaspina Okeover Coastal Plan Area Boundary (MSRM, CWS)
CWS Confirmed Areas of Migratory Bird Use
CWS Areas of Interest for Migratory Birds, 1994 probable areas of use by migratory bird species as mandated under the Migratory Birds Convention Act
Kilometers

Figure 20. Canadian Wildlife Service confirmed areas of use and areas of interest for migratory birds within the Malaspina Complex. Source: adapted from OWS (2002)

Table 3. Confirmed areas of use by migratory birds in the Plan Area.

Planning Units	Location	Species Group	Listed Species	Identified Colonies
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Note: Two Character Code
S=Provincial (**R**=Red, **B**=Blue) **N**=National (**T**=Threatened) **G**=Global (**V**=Vulnerable)

Source CWS (2002)n

Red and Blue listed marine birds, mammals and fish species for the Sunshine Coast Forest District

The provincial Conservation Data Centre (CDC) tracks plant and animal species at risk in British Columbia. These species may be at risk due to reductions in population size or threats to habitat resulting from human activities. Alternatively, these species may have limited ranges within the Province or could have a critical stage to their life cycle (e.g. breeding) occurring in very specific habitats or small areas within the Province. **Red listed** species are plants and animals endangered, and facing imminent risk of extirpation or extinction. Red listing serves to flag these species as being at risk. **Blue listed** species are considered to be vulnerable in British Columbia and are of special concern. Vulnerable species are of special concern because of certain characteristics that make them particularly sensitive to human activities or natural events. Blue listed species are considered at a lower level of risk than red listed species.

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Marbled Murrelet	*Brachyramphus marmoratus*	G3G4	S2B,S4N	Red
Mammals				
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Harbour Porpoise	*Phocoena phocoena*			Blue
Humpback Whale	*Megaptera novaeangliae*	G3	S1N	Blue
Northern Sea Lion	*Eumetopias jubatus*	G3	S2B,S3N	Red
Fish				
Eulachon	*Thaleichys pacificus*	-	-	Blue

Source: MSRM and WLAP: CDC (2003)c

See Notes: Page 18…

■ MARINE MAMMALS ■

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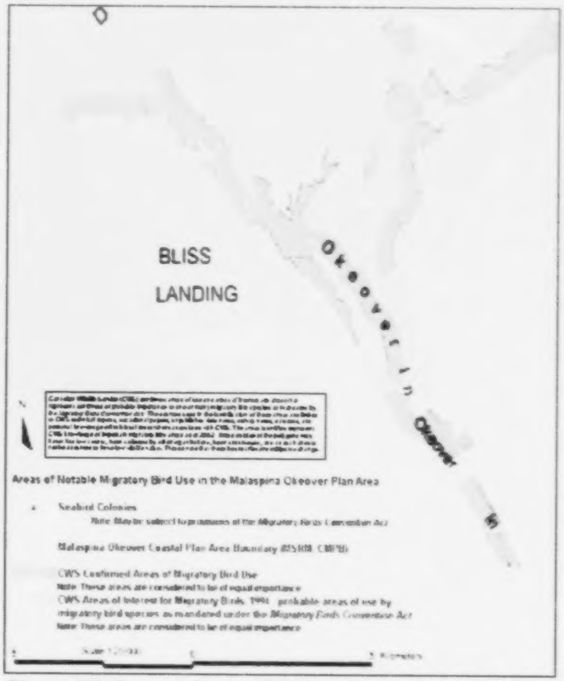
BLISS
LANDING
Okeover In
Channel
Areas of Notable Migratory Bird Use in the Malaspina Okeover Plan Area
Seabird Colonies
Note: May be subject to provisions of the Migratory Birds Convention Act
Malaspina Okeover Coastal Plan Area Boundary (MSRM, CMPB)
CWS Confirmed Areas of Migratory Bird Use
Note: These areas are considered to be of equal importance
CWS Areas of Interest for Migratory Birds, 1994 - probable areas of use by migratory bird species as mandated under the Migratory Birds Convention Act
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Scale 1:25000
Kilometers

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Note: Two Character Code
S Provincial (**R** Red, **B** Blue) **N** National (**T** Threatened) **G** Global (**V** Vulnerable)

Source: CWS (2002)n

Red and Blue listed marine birds, mammals and fish species for the Sunshine Coast Forest District

The provincial Conservation Data Centre (CDC) tracks plant and animal species at risk in British Columbia. These species may be at risk due to reductions in population size or threats to habitat resulting from human activities. Alternatively, these species may have limited ranges within the Province or could have a critical stage to their life cycle (e.g. breeding) occurring in very specific habitats or small areas within the Province. **Red listed** species are plants and animals endangered, and facing imminent risk of extirpation or extinction. Red listing serves to flag these species as being at risk. **Blue listed** species are considered to be vulnerable in British Columbia and are of special concern. Vulnerable species are of special concern because of certain characteristics that make them particularly sensitive to human activities or natural events. Blue listed species are considered at a lower level of risk than red listed species.

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Fish				
Eulachon	*Thaleichys pacificus*	-	-	Blue

Source: MSRM and WLAP, CDC (2003)e

See Notes: Page 18...

Note: CDC Conservation Status Rankings (S = Provincial, N = National, G = Global)

X	Presumed Extirpated or Extinct	Not located despite intensive searches and no expectation that it will be rediscovered.
H	Historical	Not located in the last 50 years, but some expectation that it may be rediscovered.
1	Critically Imperilled	Because of extreme rarity or some factor(s) making it especially susceptible to extirpation or extinction. Typically 5 or fewer existing occurrences, or very few remaining individuals.
2	Imperilled	Because of rarity or some factor(s) making it very susceptible to extirpation or extinction. Typically 6 to 20 existing occurrences or few remaining individuals.
3	Vulnerable	Because rare and local, found only in a restricted range (even if abundant at some locations), or because of some other factor(s) making it susceptible to extirpation or extinction. Typically 21 to 100 existing occurrences.
4	Apparently Secure	Because uncommon but not rare, and usually widespread in the province. Possible cause for long-term concern. Typically more than 100 existing occurrences.
5	Secure	Because common to very common, typically widespread and abundant, and not susceptible to extirpation or extinction under present conditions.
?	Unranked	Rank not yet assessed.
U	Unrankable	Due to current lack of available information.

Note: Conservation Status Rank Modifiers

E	Exotic – a species introduced by man to the province.
?	Inexact or uncertain due to limited information; qualifies the immediately preceding rank character.
Q	Taxonomic status is not clear or is in question.
T	Designates a rank associated with a subspecies or variety.
B	Designates a rank associated with breeding occurrences of mobile animals.
N	Designates a rank associated with non-breeding occurrences of mobile animals.

2.3. Social and Economic Profile

■ COMMUNITY ■

The Malaspina Okeover Plan Area is located within the Powell River Regional District (PRRD), Rural Subdivision A (RS-A), and within the traditional territory of the Sliammon (Tla'amin) First Nation.

Plan Area population is about 78 persons for two dissemination areas, which spread over the majority of the Malaspina Peninsula and on either side of Okeover Inlet; not including the township of Lund (StatsCan 2001)p. The corresponding population for Rural Subdivision A (RS-A) is 988, and for the PRRD is 19,765 persons. Most of the RS-A population resides in the area west and south of Okeover Inlet, including the settlements of Lund, Bliss Landing and Okeover. The 2001 population of the Sliammon (Tla'amin) Indian Reserve is 677 persons. Thus, the population in the general area surrounding the Plan Area is about 1,600 persons for 2001.

During the summer months a significant rise in resident population occurs, and the number of visitors to the area also increases significantly due to tourism. Plan Area residents usually travel to Powell River or Lund for shopping and various public services when required (e.g. schools, hospitals, etc.).

For confidentiality reasons, census information (other than the population count) is suppressed for geographic units of less than 250 persons. The census information presented below corresponds to the RS-A.

Relative to 1996, the population of the RS-A declined 1.7% (17 persons), the population of the Sliammon (Tla'amin) increased 20% (112 persons), and the RD population declined about 1% (171 persons). This was consistent with the provincial trend of BC's rural areas losing population relative to the 1996 census. Powell River, the largest community near the Plan Area, had a population decline of about 1% from 1996-2001.

The age profile indicates the population of the RS-A is generally older when compared to the broader Regional District and provincial populations (Figure 21)q. Nearly 40% of the RS-A population is in the 44-65 year age category. The median age of the RS-A is 46.6 years compared to 42.5 years for the Powell River Regional District, and 38.4 years for the Province.

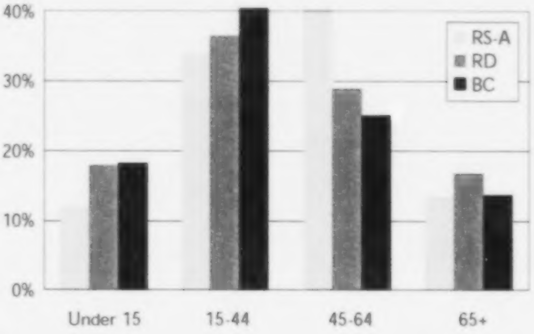

Figure 21. Comparison of age profiles for rural subdivision 'A' (RS-A), PRRD and the Province.

Data source: MFCR; BC Stats (1996)q

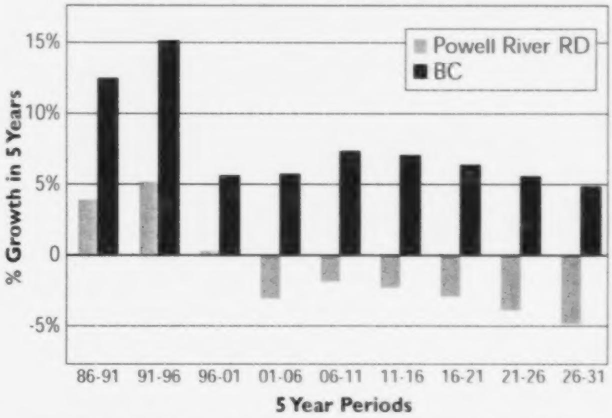

Figure 22. The historic and forecasted population growth for Powell River Regional District and the Province.

Source: MFCR; BC Stats (2001)r

Population forecasting for the RS-A was not available during the planning process, but long term forecasts for the larger PRRD indicate recent population declines are expected to continue and even accelerate over the next thirty years (MFCR; BC Stats 2001, Figure 22)r. However, it is unclear if the Plan Area population will follow this trend as the population is substantially smaller than the Regional District. Nevertheless, providing this forecast does prove to be reasonably accurate, it could imply a decrease in demand for pubic and community services, thereby affecting the standard of living adjacent to the Plan Area.

■ FIRST NATIONS ■

As noted the Plan Area is within the traditional territories of the Klahoose and Sliammon (Tla'amin) First Nations.

The main community of the Klahoose First Nation is within Squirrel Cove on Cortes Island. The Klahoose First Nation does not have reserve land within the Plan Area and has not been active in recent years, within the Plan Area.

The Sliammon (Tla'amin) Band however has three reserves adjacent to the Plan Area: Tohk natch (Okeover), Toh kwon non (Theodosia), and Kah Kee Ky (Grace Harbor), which historically served as their main village sites. Parts of the Tohk natch and Toh kwon non reserves are within the narrow terrestrial margin in the Plan Area. None of these three reserves are currently inhabited. The Band at the Agreement in Principle (AIP) stage (Stage 5 under the BC treaty process) of negotiating a Treaty. In reaching this stage the Band selected lands that it wishes to include in the treaty settlement, and, although the AIP is not legally binding, the provincial and federal governments have agreed. This land surrounds Tohk natch reserve and extends along the eastern side of Okeover Inlet and includes lands northwest of Theodosia Inlet. Only upland is included in these Treaty Settlement lands. The appropriate Planning nit maps in section 3.12 identify specific treaty settlement land locations.

The Sliammon (Tla'amin) Treaty Society submission during development of this Plan identifies many of the Band's social, cultural and economic interests and values within the Plan Area, including 79 identified archeological sites. The Treaty Society has indicated that these sites are extremely important, and that there is a history of damage and desecration of sites in Sliammon (Tla'amin) Traditional Territory. The Sliammon (Tla'amin) would like to see greater consideration of these sites by LWBC during the tenure application review process..

The principle economic activities identified by the Sliammon Society are shellfish farming, commercial recreation/tourism and forestry and commercial fisheries.

By virtue of a Memorandumn of Understanding with the Province, the Sliammon (Tla'amin) First Nation has priority with respect to 8 beach and 3 off bottom shellfish growing areas. Beach tenures currently cover approximately 27 ha. of tidal fronting land selected for treaty settlement within Lancelot, Okeover and Theodosia Inlets. The 3 off bottom sites cover 17 ha. and are located within Okeover and Lancelot Inlets. The beach sites have been seeded with oysters, which are expected to be ready for harvest in 4-5 years. The beaches presently support a substantial clam population and the intention is to begin harvesting them when tenures become secured. Surveys completed for the Band indicate the tenures would support production of some 150,000 pounds per year using aquaculture technology, such as seeding, predator control and other husbandry techniques. This compares to the average wild clam fishery production in the Plan Area of 44,000 pounds over the past 5 years, which has been subject to major DFO-imposed time, size and catch limit constraints to ensure sustainability of the wild fishery. The beach tenures are expected to employ 6-10 persons over a 2 to 3 month harvesting period. Once the off bottom growing sites become operational, employment for another 2 persons will be supported. At this time 2 of the 3 off bottom tenures have been secured.

The Band expects to soon re-open its processing plant (Mermaid Oyster Producers) on the west shore at the south end of Okeover Inlet. Initially the plant will process wild clam harvests from Savary Island, but will then begin processing clams from Plan Area tenures. Employment at the processing plant will be 4 to 5 persons, 3 days per week, for about 9 months.

Tourism opportunities for the Band are being explored at the present time and include possible lodging establishments along East Okeover Inlet as well as commercial recreation guiding outfits also based out of the same area. The Band has a few innovative ideas for tourism within its traditional territory, including plans to integrate guided tours of shellfish farms in Okeover and Lancelot Inlets.

With respect to forestry activities, the Band holds a wood lot license south of the Plan Area. The annual approved harvest is 3,067 cubic meters. In the future, the Band is aiming to increase its participation in the forest industry and this could be facilitated by treaty settlements. In addition, recent changes in forest policy have indicated that MOF has the intention of making a larger harvest quota available to First Nations throughout the entire Province.

The Sliammon (Tla'amin) First Nation has stated that members continue to use the entire area for traditional uses, that during the summer member traffic increases due to the traditional harvesting of food resources, and that these harvesting efforts are often faced with obstacles due to non-First Nation area residents and economic development projects .

ECONOMIC STRUCTURE AND TRENDS

This portion of the Plan examines important income-generating economic activities occurring within, or supported by the Plan Area. The economic perspective presented here corresponds to the formal economy and therefore, the economic significance of barter exchange and other unrecorded activities is not addressed in this profile.

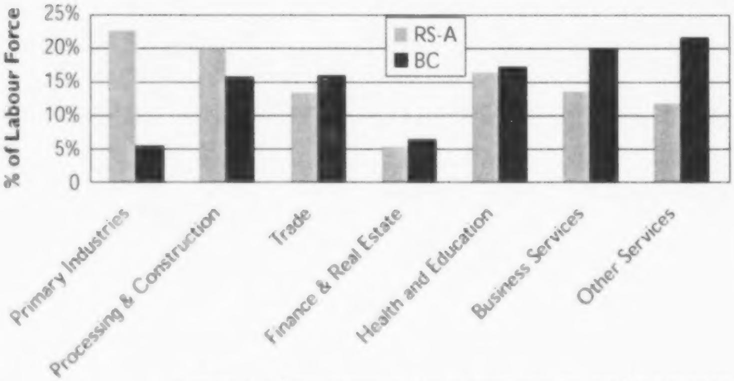

Figure 23. Comparison of the labour force for rural subdivision "A" (RS-A) and the Province.

Source: StatsCan (2001)p

For the RS-A, the number of persons in the labour force is about 535 persons for a participation rate of 64%, which is similar to the provincial average (StatsCan 2001; Figure 23)p. The area's unemployment rate is 7.3%, substantially lower when compared to the provincial rate of 8.5%. A large proportion of the labour force is involved in primary producing industries such as logging, and to a lesser degree fishing, agriculture and mining. Relative to the provincial profile, the area has relatively fewer persons employed in the trade and service industries. An analysis of income dependencies for 1996 reveals a relatively large contribution from the forestry sector (MFCR; BC Stats 1996, Figure 24)q. It also shows the importance of the public sector, transfer payments, pension and investment income in generating income within local communities.

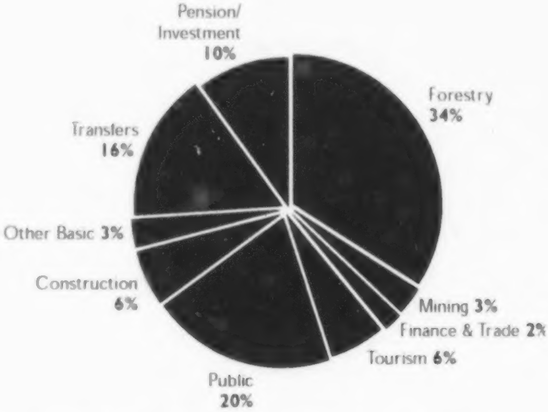

Figure 24. Economic dependency for the Powell River Regional District.

Source: MFCR; BC Stats (1996)q

The distribution of occupations indicates that a relatively large proportion of the labour force is employed in trades and activities related to primary resource harvesting, such as logging, fishing, and mining (StatsCan 2001; Figure 25)p. When compared to the provincial labour force, occupations in management and administration within the RS-A are under-represented.

Regional statistics indicate a local economy that is highly dependent on the forest industry for both employment and income (Figure 24)q. Transfer payments as well as pension and investment income are both important to persons not actively employed (i.e. retired or disabled). In fact, the spending of non-employment income on consumer goods and services supports 26% of local employment within the region. Tourism accounts for about 6% of the region's income.

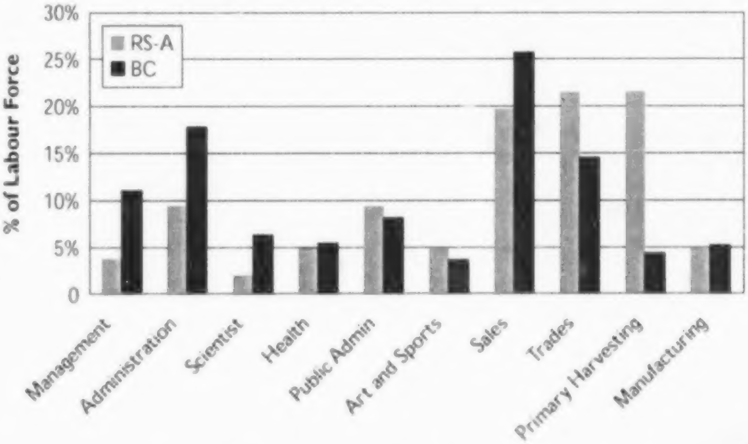

Figure 25. Distribution of the RS-A and Provincial work force by industry/ sector.

Source: StatsCan (2001)p

2.4. Economic Activities

■ FISHING AND SHELLFISH HARVEST ■

The harvest of marine fish and shellfish has been an important economic contributor to the Malaspina Complex for most of the area's history. These activities remain central to the livelihood and lifestyle of a significant portion of the community, particularly First Nations, for whom food harvesting is an important element of household incomes, not reflected in labour force and economic dependency data.

Data on commercial and recreational fishing for the Plan Area prior to 2000 was grouped into the broader DFO Pacific Fishery Management Area (PFMA) 15. Subsequently, the pooled data set predating 2000 makes it difficult to determine the historic value of these fisheries specific to only the Plan Area. However, beginning in 2000 commercial data were collected specific to the Malaspina Complex. PFMA sub-area 15-4 includes the Plan Area and that portion of Desolation Sound Marine Park within the Malaspina Complex (Figure 19). This section of the economic profile therefore, represents an assessment of PFMA sub-area 15-4.

The Plan also values local information on fishery resources. However, local knowledge on the economics of wild fisheries in the Plan Area was scarce. Local information on wild fisheries is usually limited to the identification of locations for commercial or traditional fisheries rather than economic statistics.

Sliammon (Tla'amin) First Nation and local residents within the Plan Area have indicated a number of beaches that are important for public recreational and traditional clam harvests. Natural populations of clams continue to support important commercial, recreational and aboriginal fisheries within the Plan Area.

Commercial Clam Licence Area "C" harvesters are permitted to fish in the Plan Area during commercial fishery openings. The area is open for an average of 20 days per year, for one or two tides spread throughout the season, for best market advantages. Approximately 20 to 30 harvesters fish per opening. Many of the commercial harvesters live in the Plan Area and depend upon this fishery for a significant part of their income, estimated to be in the $3,000 to $5,000 range on average, cumulatively valued over the Plan Area at $90,000 to $140,000 annually (Figures 26 & 27). Approximately 225 commercial clam harvesters are licenced for Area "C" including First Nation commercial harvesters.

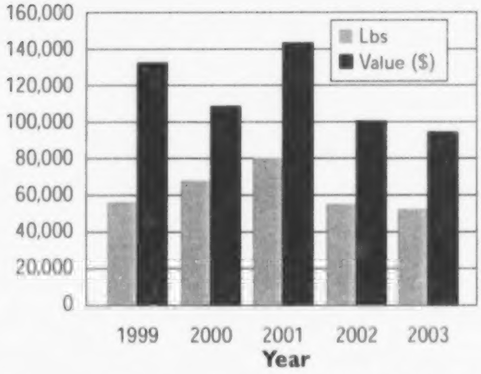

Figure 26. Wild clam harvest for PFMA 15-4. Majority Littleneck and Manila clams.

Source: DFO (2003)[5].

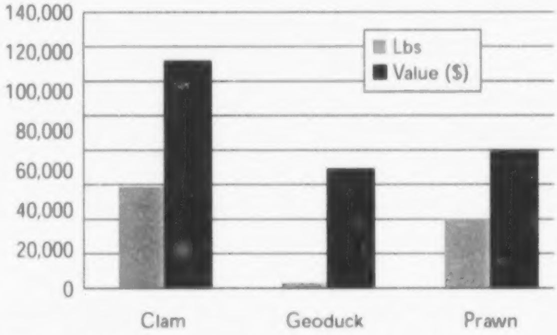

Figure 27. Bivalve and invertebrate fisheries within the Plan Area. Note: Geoduck statistics were calculated based on a three year rotational harvest period.

Source: DFO (2003B)[5].

Sliammon (Tla'amin) First Nation has expressed interest in establishing a depuration fishery (defined in glossary) at Freke Anchorage in the future. Currently, most of the foreshore in the anchorage is closed due to sanitary contamination. Clam depuration projects have been successful in other areas where First Nation groups are licensed, along with a registered depuration to undertake a very controlled harvest of clams for depuration purposes.

Commercial geoduck fishing is managed on an "area rotational" basis, generally with commercial harvest occurring every three years. There is an individual licence quota system in place and each of 55 "G" licences are permitted to fish 72,000 pounds of geoduck annually. Vessels are "area licenced" and there are currently 7 vessels licenced to fish Inside Waters, inclusive of the Plan Area. Geoduck harvest has been recorded in the Plan Area for 1997 and

2000 and harvest for each of the two openings is in the order of 4,500 pounds (Figure 27). Harvest data from the 2003 fishery are not yet available. Future harvests are planned for 2006 and 2009 within the Plan Area.

Commercial crab landings have increased in recent years; however, detailed information is protected under the federal Privacy Legislation, due to less than 3 vessels reporting annually.

No records exist for, and the Plan Area is currently closed to commercial sea cucumber fishing.

The commercial prawn fishery has become increasingly more active within the Plan Area in the last 6 years. On average 5 vessels fish annually and land on average 6900 pounds within a 10 to 12 week period. The annual average landed value is estimated at 69,000 or approximately 14,000 per vessel (Figure 27). Many licenced prawn fishery vessels live in or near the Plan Area.

■ SHELLFISH AQUACULTURE ■

Shellfish aquaculture is an important industry within the Plan Area, and for the entire Province (Figure 28). The first shellfish tenure for the Plan Area was issued in 1966. Since the 1970's the Plan Area has made significant contributions to the growth of the provincial shellfish aquaculture industry. The Malaspina Complex along with Baynes Sound and Cortes Island continue to be the most productive areas in the province for commercial shellfish aquaculture.

According to a recent survey of the provincial industry, a total of 482 shellfish tenures cover 2114 hectares. Comparable to Baynes Sound and Cortes Island, the Malaspina Complex represents one of the highest concentrations of tenured land included in provincial statistics. According to MAFF data, 40 beach and off bottom tenures currently cover 185 ha. in the Plan Area. This is approximately 9% of the total number of shellfish aquaculture tenures in the Province. Table 5 below presents a comparison of shellfish tenured areas between 1983 and 2003 for the Malaspina Complex. Important to note is the number of tenures that have either been extinguished from within park boundaries or relocated outside of park boundaries. A 2% decrease in shellfish tenured area has also occurred over the past 20 years.

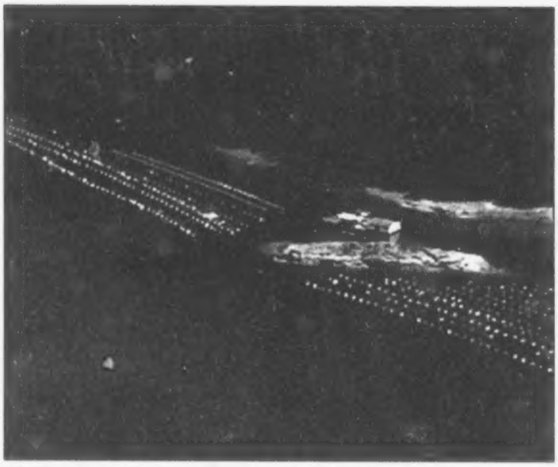

Figure 28. Longline tenure for shellfish aquaculture in Trevenen Bay.

Source: MSRM; CMPB (2002)[b].

The Plan Area's largest single tenure is 18 ha. and the smallest is 0.5 ha. The average tenure size is 4.6 ha. and most are 4 ha. or smaller. Only four tenures are larger than 10 ha. (Kingzett 2003, Figure 29)u. The BC Shellfish Growers Association has indicated that, generally, ten hectares is the minimum size for a farm to be economically viable. Tenures include both beach and off bottom sites as well as combinations of both.

Table 5. Comparison of shellfish tenured area for the Malaspina Complex

Location	Shellfish Tenures 1983	Shellfish Tenures 2003
Inside Park	82 ha.	5.2 ha.
Outside Park	120.6 ha.	190.7 ha.
Malaspina Complex Total	202.7 ha.	196 ha.

Source: MAFF (2003)t.

In the past five years the number of tenures from which farmers have reported production has varied from a low of 23 in 1997, to 35 in 2001 (MAFF; Seafood Development Branch 2003, Table 6)v. Over this period the volume of clams, mussels, and oysters (in shell) generally increased, while the volume of shucked oysters declined.

Some residents contend that some of the product reported in Table 6 has come from outside the area and therefore is biasing the results in this table. While may be possible, there are no data to confirm whether this has occurred and, if so, what the volume of product from outside the area might be included in these figures.

Table 6. Production from Plan Area shellfish tenures for the Plan Area.

	1997	1998	1999	2000	2001
Clams and Mussels ('000 lbs)	22	25	0	38	76
Oysters ('000 dozens)	127	161	187	149	303
Oysters ('000 gallons)	10	15	8	8	5
Number Reporting	23	33	26	27	35
Value per Site ($ '000/ tenure)	26.13	24.00	34.65	24.96	33.54

Source: MAFF (2003)[i]

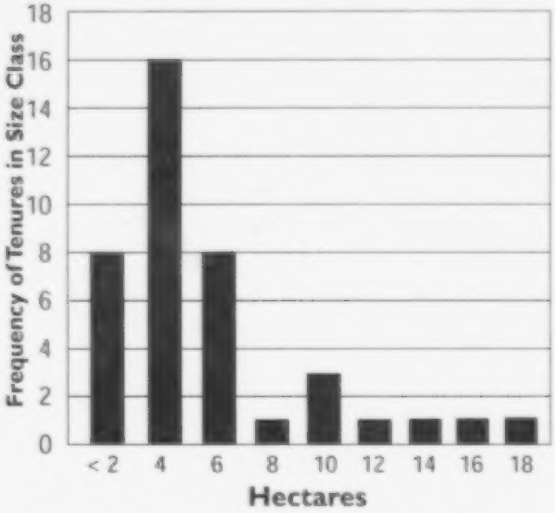

Figure 29. Frequency of tenure size within the Plan Area.

Source: Kingzett (2003)[ii]

The tenures are held by a variety of entities, from family run businesses with few employees to incorporated companies with integrated processing facilities and a relatively large number of employees. The majority of production appears to be concentrated in a relatively small number of tenures. Thus, the top ten tenures (25%) account for about 57% of the total farm gate value (2001 values). Similarly, the average sales revenue per tenure is about $33,000, while the median income is about $30,000 per tenure. These statistics suggest that 50% of the tenures account for about 80% of the value of production. Industry observers indicated some tenures were being fully utilized and others were not producing at all. It was estimated that given the tenured area, current overall industry production was at about 60% of its maximum tenured capacity.

The farm gate value of shellfish production according to MAFF statistics has ranged from about $700,000 in 1997 to about $1.2 million in 2001. A survey of Plan Area operators conducted by the Active Malaspina Mariculture Association (AMMA) estimated the total farm gate value for Plan Area tenures to be about $2.2 million in 2001. However, industry observers indicated that some operators may understate production revenues in their official statistical reports out of concerns this information could be used to increase tenure fees or other charges.

The fluctuation of annual production volumes in recent years reflects the impact of PSP closures as well as new tenures coming into production. In 2000, growers were prevented from delivering product to the marketplace due to a 20 week PSP (Paralytic Shellfish Poisoning) closure. Furthermore, this impact on sales is frequently exacerbated because wholesalers find other growers during these closures, and it takes time to regain consumer confidence once an area is reopened for shellfish production.

Employment can be characterized in terms of full time equivalents (fte), or the number of jobs (which includes fulltime, part-time and seasonal). The fte can be estimated from aggregate farm gate values for the shellfish industry. In 2001, this value was in the range of $1.1 to 2.2 million as reported above by MAAF and AMMA respectively. Industry studies indicate that wages and salaries average about 46% of sales revenue. Given a fulltime industry annual wage of $23,000, direct employment is 22 to 44 fte positions depending on the aggregate farm gate value accepted as accurate.

AMMA completed a survey of the industry that sought employment data and 47 % percent of operators in the Plan Area returned the survey. The values for non-respondents were estimated by AMMA based on their knowledge of the local industry. The survey findings are summarized in Table 7 below.

Table 7. Employment in the shellfish aquaculture industry for the Malaspina Okeover Plan Area

Type of Employment	Number of Jobs
Owner/family	50 (full and part time)
Full time employment	25
Part time employment	20
Casual employment	25

Source: AMMA (2002)[iv]

The 120 jobs reported by the survey correspond to about 44 fte positions. This implies that on average, every 3 jobs (casual, part-time or full-time) within the Plan Area there is one fte position. Less formally, industry observers estimate current employment at roughly 25-35 fte's.

The Sliammon (Tla'amin) First Nation plans to re-open its shellfish processing plant adjacent to Okeover Inlet, which should make shellfish culture operations in the area more cost effective and also assist in mamking the Band more self sustainable within and outside the Plan Area. have a positive economic impact on the region.

The Plan Area's industry could potentially support another 18 to 35 fte positions in processing plants and other industries, which supply goods and services to shellfish operators. These jobs would probably be manifest in greater Vancouver and Vancouver Island as well as locally. Hence, total potential employment associated with the Plan Area's current and future shellfish operations is in the order of 40 to 80 fte positions.

Over the next several years shellfish production within the Plan Area could potentially increase significantly. This is largely due to Sliammon (Tla'amin) First Nation recently securing a number of tenures for shellfish aquaculture. This First Nation has been given priority accesss over a ten year period to a number of areas reserved for shellfish aquaculture under the Memorandum of Understanding with the Province. In addition, several other growers are significantly significantly expanding mussel cultivation and a number of other operators are interested in expanding their existing tenures. Further to this, if processing plants in Okeover Inlet and Lund are re-opened, the competitive positions of Plan Area growers may improve resulting in increased production from existing tenures.

Oysters as the principle shellfish farmed within the area are sold either shucked or in the shell. Clams and mussels are also produced in significant volume and most production, including oysters, is transported for sale to wholesalers in Vancouver. At present, there are no processing plants within the Plan Area, but as noted earlier the Sliammon (Tla'amin) expect to be re-opening their plant in Okeover Inlet sometime in 2003.

■ FORESTRY ■

Forested lands surrounding the Plan Area consist of parklands and managed forest lands. BC Timber Sales (formerly the Small Business Forest Enterprise Program) and International Forest Products extract timber from managed forest lands for paper, pulp, and various other wood products. Most timber is trucked to nearby mills and the remainder is brought to log dumps at Okeover or Malaspina Inlets for marine transport (Figure 30). Active marine log dumps in Theodosia Inlet are supplied by several forest companies including Weyerhaeuser, Doman Western, and some other smaller, private operations.

Within the managed forest lands there are currently five timber sale licences (TSAs) adjacent to the Plan Area. Over the next five years roughly 900 ha. is expected to be logged using single-tree and clumped retention methods, to harvest approximately 88,500 m^3 (MOF 2003)x. Its unclear how much of this forestry value is beneficial to the Plan Area as labour force and economic dependency statistics were only available for the larger PRRD.

In the near future, it is likely Sliammon (Tla'amin) First Nation's participation in the local forest industry will increase. This would be a result of a Province-wide initiative to reallocate a greater proportion of forest tenures to First Nations. This may provide significant economic opportunities to the Sliammon (Tla'amin) and would not result in any further increases to the annual allowable cut harvested from lands adjacent to the Plan Area.

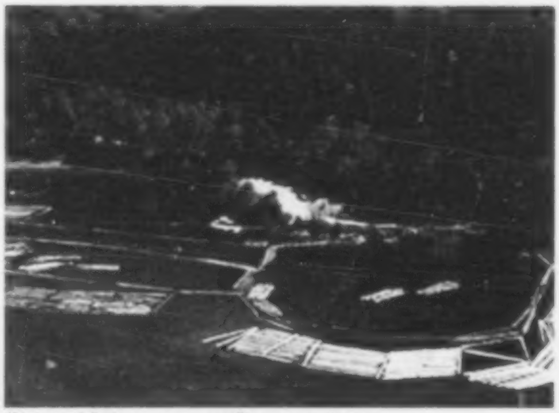

Figure 30. Log booms in Theodosia Inlet.

Source: MSRM, CMPB (2002)[b]

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[7] Based on employment multiplier of 1.75 for the aquaculture industry as estimated by BCStats (BC input/output model).

■ TOURISM AND RECREATION ■

The Malaspina Complex is widely recognized for its recreation and tourism values. Three provincial parks are located adjacent to the Plan Area, including BC's largest marine park - Desolation Sound Provincial Marine Park. Two upland parks, Okeover (Figure 31), managed by the Sliammon (Tla'amin) First Nation and Malaspina Provincial Parks occur west of the Plan Area on the Malaspina Peninsula. Other attractions include the 180km long Sunshine Coast Trail, sea caves for scuba diving in Okeover Inlet and a variety of Sliammon (Tla'amin) First Nation cultural attractions.

Communities directly benefiting from recreational assets in the Plan Area are Lund, Sliammon (Tla'amin), Powell River and the settlement of Okeover. Businesses in the Plan Area cater to visitors along the western shore of Okeover Inlet where amenities are accessible by road.

Two establishments offer the majority of accommodations within the Plan Area. Other services include a restaurant, private campground, marina, and several adventure tourism operations (i.e. sea kayaking lessons and tours). Most of the recreation/ tourism businesses are relatively new to the area, either newly started up or taken over by new management within the last ten years.

The primary tourism operating season is mid-May to mid-October, but some local businesses operate year round. While tourists come from BC, the rest of Canada and Europe, tourists from the US account for a significant proportion (25% to 90%, depending on the type of business) of visitors for local businesses. Total gross receipts in 2002 were in the order of $1.4 million, $700,000 of which are attributed to purchases by non-residents.

Figure 31. Okeover Arm Provincial Park.

Source: WLAP (2003)[8]

During the busy summer season tourism establishments employ 70-80 persons; off-season, employment is in the order of 20 persons. Businesses interviewed reported strong and steady growth over the past five years. Several businesses are investing in expanded facilities (i.e. accommodations, meeting rooms, etc.).

Local business operators indicated clients were attracted to the Plan Area for scenic attributes and to partake in marine-oriented activities. Most boaters and kayakers in the area access waters throughout the Malaspina Complex and Desolation Sound from Okeover Inlet as a staging area, due to its convenient highway access, sheltered waters and close proximity to Desolation Sound Provincial Marine Park. Some tourism industry operators have expressed concern over noise and visual impacts from nearby shellfish operations. One of the longer operating businesses in the Plan Area contends that a recently established shellfish off bottom operation adjacent to the property is driving potential clients away from their business.

Sliammon (Tla'amin) First Nation has expressed interest in commercial tourism and recreation developments and has indicated its intention to apply for a Commercial Recreation Tenure (CRT) as one of nine planned CRT sites within the Plan Area. As part of its long-term business strategy it views shellfish aquaculture and tourism as compatible activities and has plans to integrate the two, providing tours of Sliammon (Tla'amin) shellfish tenures.

While the Plan Area is recognized as supporting a wide range of recreational pursuits including cruising, fishing, kayaking, hiking, swimming and scuba diving, little data, beyond park visitations are available at the present time (Table 8). Boating, kayaking and hiking local trails are the most popular activities within the Plan Area and adjacent provincial parks.

The number of people hiking segments of the Sunshine Coast Trail has increased steadily since the opening of the trail in 1992. Moreover, and even more significant, are the escalating number of visiting hikers in the past two years, as the trail has become increasingly well-known to the public. In

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[3] It was indicated that the larger producers would probably benefit the most with the re-opening of local processing. Smaller growers would probably get higher prices selling to non-local processors.

the most recent year on record (2000), roughly 600-1,000 out of town visitors, hiked the trail (Walz 2003)z. Over the next five years, this number is expected to grow to 2000-3,000 visitors.

In addition to documenting visitor trends and a summary of the more popular activities in the area, it is worth noting that a recent tourism opportunity study indicated that both Desolation Sound and Okeover Inlet have high potential for tourism development. That study evaluated 1.9 million ha. of land, lakes and ocean throughout the Sunshine Coast. Assessed were both "resource criteria" and "market and socio-economic criteria". Findings from the study detailed both the strengths and weaknesses of different RMUs using 17 different criteria. A summary of these findings for Desolation Sound and Okeover Inlet (RMU #37), is detailed in Table 9 below.

Among the strengths identified in the study were the uniqueness of key features including Desolation Sound Marine Provincial Park and the Sunshine Coast Trail, supportive features required for certain activities such as fresh water or campsites, types of activities, type of setting, existence of supportive infrastructure, activities demand, business development capacity, community value, and the absence of public recreation conflicts. Weaknesses identified through the study for RMU #37 were the lack of cultural and heritage features and the presence of resource use conflicts. The remaining seven criteria not mentioned in text, but listed in the table above, were rated as neither strengths nor weaknesses having rankings near the midpoint of the ranking scheme. Overall RMU #37 scored 49 out of a possible 77, rating the area as having "high potential for tourism development". The Sunshine Coast Tourism Opportunity Study can be accessed at the following website:

http://srmwww.gov.bc.ca/dss/initiatives/tourism/tos/Sunshine/Report/SC%20Report%20Full.pdf

Table 8. Park visitations (number of parties) for 1999 and 2000

Park	Visitation Type	1999	2000
Desolation Sound	B	3,830	4,830
Marine Provincial Park	C	314	211
Okeover Arm	C	599	688
Provincial Park	D	4,412	5,690
Sunshine Coast Trail	C,D	N/A	600-1000

Source: Walz (2003)z

B = Boat Use   C = Camping Use   D = Day Use

Table 9. Resource and socioeconomic criteria used to evaluate Desolation Sound and Okeover Inlet(RMU #37) (Note: red numbers indicate rating).

Criteria	Low <>High
Resource Criteria	
Uniqueness of Key Features	1 2 3 4 5 6 7 8 9 10
Supportive Features	1 2 3 4 5 6 7
Types of Activities	1 2 3 4 5 6
Type of Setting	1 2 3 4
Culture and Heritage Features	1 2 3 4 5 6
Access to Staging Area	1 2 3 4 5
Access from Staging Area to Resource	1 2 3 4 5 6
Existence of Supportive Infrastructure	1 2 3 4 5
Carrying Capacity	-5 -4 -3 -2 -1 0
Market and Socioeconomic Criteria	
Activities Demand	1 2 3 4
Business Development Capacity	1 2 3 4 5 6
Operator Capacity	1 2 3 4 5
Prime Season	1 2 3
Community Value	1 2 3 4 5
Public Recreation conflicts	-4 -3 -2 -1 0
Resource Use Conflicts	-4 -3 -2 -1 0
Local Support	-5 -4 -3 -2 -1 0 1 2 3 4 5

Adapted from Cloverpoint 2002aa

-4 to 20 21 to 34 35 to 48 49 to 77 (RMU #37 = 49 overall)

1 Low Potential **2** Some Potential **3** Good Potential **4** High Potential

■ MARINE TRANSPORTATION ■

The Malaspina Inlet serves as the only marine access corridor from the Strait of Georgia into the Plan Area. Marine transportation within the Complex consists of commercial transport, commercial recreation/ tourism operations and recreational boating and paddling. Commercial transport is primarily for shellfish and timber products, but some other industrial equipment and supplies are moved throughout the Plan Area, periodically. Commercial and public recreational vessels navigate throughout the Plan Area often using the western side of Okeover Inlet as a staging area.

■ MINING ■

There is no record of mines operating in the vicinity of the Malaspina Complex, although mineral exploration has yielded evidence of metal and industrial mineral deposits. Recorded mineral exploration expenditure shows sporadic exploration activity in the Bunster Hills since the 1930's. The most developed prospect, commonly known as OK South and located in the Bunster Hills east of the Plan Area, has measured copper and molybdenum reserves. Seven valid mineral tenures, aligned from north to south occur here covering the high ground of Bunster Hills. The industrial mineral potential of the area is rated high and metallic mineral potential medium. A few "no-staking reserves" occur along the east shore of Okeover Inlet and west of Trevenen Bay.

No identified geothermal hot springs exist in the vicinity of the Plan Area and geothermal potential is rated low.

Table 10. Mineral occurrences in the vicinity of the Malaspina Okeover Plan Area.

Property	Status	Description
Resource Criteria		
Okeover South (Bunster Hills)	Developed prospect, Bunster Range	copper, molybdenum with 68 Mt reserves at .3% cutoff (1991)
LL (Bunster Hills)	Showing	copper, molybdenum
Lund (east of Lund)	Showing	dimension stone

■ UTILITIES ■

The Plan Area is connected to the main provincial electricity grid along Highway #101 leading in from the south.

Two telecommunication utility cables stretch along the seabed of Okeover Arm providing services for most residents. The cables cross near Larson's Landing and just north of Freke Anchorage in a northwesterly direction (see Section 3.12; Planning Unit maps no. 4&5). Cellular phones are presumably used in areas without service.

3. PLAN FRAMEWORK AND DIRECTION

3.1. Use of the Plan

The Malaspina Okeover Coastal Plan is designed to assist prospective land tenure applicants, First Nations, local government, LWBC and other government agencies in dealing with applications for the use of provincial Crown foreshore and nearshore tenures. The Plan may also provide a useful tool to assist in the marketing of community and Sliammon (Tla'amin) First Nation's economic developments, as well as a heightening of public awareness about Aboriginal access to resources and the protection of archeological sites..

Use of the Plan should benefit First Nations, local government, LWBC and other government agencies by screening or filtering potential Crown land applications which may have a limited likelihood of success. In this way, work loads of these agencies and organizations can be expected to be lowered in both volume and level of complication or controversy.

Although the Plan has been developed with the assistance and support of the Powell River Regional District (PRRD), the Plan is not intended to replace the need for referrals to local government. Similarly, the Plan is not intended to replace provincial or federal agency referrals or to absolve LWBC from addressing its legal obligations to consult with the Klahoose or Sliammon (Tla'amin) First Nations on land tenure applications. The Plan is not intended to limit any Treaty negotiations or settlements that may occur respecting foreshore and nearshore rights, ownership or uses.

With the exception of other compelling constraints or LWBC application requirements, applications for uses that are consistent with the Plan should be accepted and evaluated by LWBC. The Plan is not intended to address operational or production requirements associated with various tenured uses. These are addressed at the tenuring and licensing application level.

Future development of offshore oil and gas resources was not considered in developing the Plan. This Plan and its recommendations will not affect or prejudice any offshore oil and gas development, including any land requirements for offshore oil and gas activities.

3.2. Related Planning Initiatives

The recommendations made within Provincial coastal plans are normally designed to be consistent with the goals, objectives and strategies of any higher-level (i.e. broader scale) Provincial regional or sub-regional plan (e.g. Land and Resource Management Plan) that exists for the area. However, no such higher level, multiple resource use plan encompasses the Malaspina Okeover Coastal Plan Area. Other than park planning initiatives for Desolation Sound Marine Park and Malaspina Provincial Park adjacent to the Malaspina Okeover Coastal Plan Area, no other related planning initiatives have been implemented to guide marine resource allocations in the Malaspina Okeover Plan Area. Table 11 outlines related two non-multiple use, broad-scale planning initiatives in the Plan Area.

3.3. Planning Units and Unit Data

The area covered by this Plan has been divided into 7 Planning Units. The Planning Unit boundaries are largely based on marine ecosystem classification (see Section 3.4) with some modification to reflect human use patterns and specific biological features.

Section 3.11 of this Plan presents descriptions and management recommendations for each of these units. For each Planning Unit, a description and map is provided of biological attributes, First Nation activities and uses, other features and non-tenured activities, existing tenured uses, current issues, status of adjacent upland, and resource capabilities for selected uses. A legend for the Planning Unit maps is provided below in Figure 25 (page 40). **Although some upland features are shown, the Plan does not provide prescriptions, conditions or guidelines regarding land uses for the upland portion of the Plan Area**. It does make some recommendations

Table 11. Related planning initiatives for the Malaspina Okeover Plan area

Planning Initiative	Date	Location and Description
Lower Mainland Protected Areas Strategy	1996	The Protected Areas Strategy (PAS) set goals and direction for developing a provincial system of protected areas and identified official study areas. A special process on the lower mainland in 1996 resulted in the creation of the Malaspina Provincial Park in 1998; encompassing 461 hectares along the eastern side of the Malaspina Peninsula. Cabinet has also instructed several ministries to develop an interagency agreement to address the concerns of shellfish producers about the impact of land and marine-based activities on water quality. These concerns will also be addressed by the Okeover Round Table and are recognized by the Malaspina Okeover Coastal Plan.
Georgia Basin Ecosystem Initiative	1998 - Present	The Georgia Basin Ecosystem Initiative is an on-going forum for addressing growth through intergovernmental partnership, innovation, consultation and specific projects to promote an environmentally sustainable future for the Georgia Basin. Local scale multiple use planning initiatives such as the Malaspina Okeover Coastal Plan will help to inform the GBEI.
Protocol Agreement for Managing the Public Recreation and Water Quality in the Malaspina Inlet Complex	2001	In 2001, in context with and prior to establishment of the Malaspina Provincial Park, MOF, LWBC, MAFF and WLAP signed an Agreement for Managing public recreation and water quality in the Malaspina Okeover Inlet Complex. The items to which these agencies agreed provide some guidance in the development of the Malaspina Okeover Coastal Plan. See Appendix 3 for Protocol details

regarding future planning to mitigate potential negative influences of upland activities on marine areas. The Plan considers upland areas and activities in the development of marine provisions, conditions and guidelines in terms of the influence of those marine activities on the upland activities and values.

Planning Unit descriptions and attributes reflect data drawn from two sources. Established government databases are the source of most of the data in this Plan. Spatial information used in this Plan is available on the Ministry website at: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm.

Such data have been collected and assembled according to standardized methods determined by the Province's Resource Information Standards Committee. This approach helps to ensure the quality and consistency of those data.

An equally important source of data is local knowledge gained through stakeholder consultation for this Plan. Planning Unit attributes in Section 3.12 based on local knowledge are identified with an asterisk (*). While these data are useful and important to the Plan, users of this Plan should understand that such information has not been validated by government or included in "official" government databases.

Planning Unit descriptions and maps in Section 3.11 also contain data regarding capability of areas to support aquaculture. These capability assessments provide reconnaissance-level analysis of physical conditions for beach culture of oysters and manila clams, as well as deepwater culture of scallops and oysters.

3.4. British Columbia Marine Ecological Classification (BCMEC)

The British Columbia Marine Ecological Classification (BCMEC) is a hierarchical classification that uses physical characteristics of the marine environment to identify distinct systems within the larger marine environment. The strengths of this system are the general accessibility of data for the entire coast; and basing the system on physical parameters that remain largely consistent, despite the dynamism of the marine environment. At the most precise level (marine ecounits), defining criteria include: stratification, surface salinity, depth, wave exposure, benthic relief (roughness), slope, tidal current, benthic temperature and seabed substrate. The first two criteria (stratification and surface salinity) are used to delineate pelagic (i.e. water column) ecounits and the foreshore. The remaining 7 criteria are used to formulate the benthic (seabed) ecounits. The 2 pelagic ecounit criteria are consistent over much of the Provincial coastline and therefore, only the 7 benthic ecounit criteria have been included as descriptors for each of the 7 Planning Units. These can be found in the table at the beginning of each unit. For a more detailed report on the BCMEC it can be found at the following website: http://srmwww.gov.bc.ca/dss/rpts/BC%20Marine%20Ecological%20Classification%20Final%20Report.pdf)

Each of these criteria enables a better understanding of the factors influencing a body of water and provides a better sense of its characteristics as habitat and its capability to support human uses and activities. To better understand the implications of marine ecounit classification, 7 of the 9 criteria used to delineate them are detailed below. The Malaspina Okeover Plan Area has relatively consistent salinity (with the exception of Theodosia Inlet) and stratification. Theodosia Inlet does not vary in salinity enough to constitute a separate classification under the MEC scheme.

■ DEPTH ■

Depth serves to distinguish between areas where sunlight can penetrate to the bottom (photic zone) and deeper areas. As sunlight drives photosynthesis, sessile (non-mobile) marine plants are generally concentrated in shallower areas providing both nutrients and habitat for other organisms. In terms of human use, depth is a factor in determining the form a nearshore structure should take (i.e. floating vs. fixed) and may also be an indicator of an area to absorb certain by-products of activities (i.e. greater theoretical dilution of waste material in deeper sites). The Plan Area has consistent depths ranging from shallow in Theodosia Inlet to mid-depth at the juncture between Okeover and Lancelot Inlets.

■ WAVE EXPOSURE ■

Wave exposure serves broadly to distinguish the open coast from island groups and inlets and provides a measure of the mechanical wave action on the shore. Exposed areas with high energy wave climates characteristically exhibit a shoreline composed of rocky headlands and sandy embayments. Shorelines of low exposure (with correlating low wave-energy conditions) are more closely reflective of upland processes, including stream run-off and erosion. Intertidal and nearshore biota vary considerably between high exposure coastlines and protected shoreline, although this is less of a factor for bottom dwelling, or benthic, organisms. The Plan Area is considered to have low exposure having little influence from the open Pacific Ocean.

■ BENTHIC RELIEF (ROUGHNESS) ■

Seabed roughness or benthic relief refers to the overall regularity of the seabed. An area with low relief will have a relatively uniform slope and little variation in elevation such as a flat mud bottom. High relief areas exhibit considerable ranges in slope and elevation, as in the case of a rock reef. Relief plays a role in water column mixing but more obviously, an area with high relief is indicative of habitat for many organisms, most notably rockfish. The Plan Area has extremely low relief with a consistently flat and primarily mud bottom.

■ SLOPE ■

Slope (change in elevation) can be a determining factor in nearshore stability in areas of sedimentary deposits. It also is a determinant of habitat structure for a variety of organisms. The Plan Area is generally flat along the bottom and slopes upward closer to Inlet shores. The Plan Area is considered to be flat throughout.

■ TIDAL CURRENTS ■

Tidal currents represent an important consideration in the distribution of nutrients and planktonic larvae and serve as an indicator of water stratification. Areas of high current are generally well-mixed with higher productivity levels than similar low current areas. As a rule, human activities should avoid high current areas when lower current areas provide a feasible alternative. The reason for this is twofold: due to the inherent design and management challenges of higher energy conditions as well as the higher risk associated with developing near high biologically productive areas. The Plan Area is considered to have low tidal currents throughout.

■ BENTHIC TEMPERATURE ■

Temperature is a factor in marine environments due to its influence on species assemblage. Temperature is known to be a factor in habitat selection for certain organisms including invertebrates and larval fish. With respect to the Plan Area, water temperature correlates fairly closely with water depth and current; shallower unmixed water is generally warmer. The Plan Area and surrounding Desolation Sound are considered to be some of the warmer waters of coastal BC. The Plan Area temperature is considered warm throughout.

■ SEABED SUBSTRATE ■

Seabed substrate ranges from mud to sand to hard surfaces, including bedrock, boulders, cobble and gravel and is an important indicator of habitat. Substrate also provides indication of system energy; fine sediment such as silt takes relatively little energy to be held suspended in the water column while considerably more energy is required to mobilise larger cobble. Consequently mud bottoms typically occur in low energy, depositional environments while harder materials (rock and gravel) represent higher energy, frequently scoured environments. The Plan Area is considered to be primarily mud throughout.

3.5. BC Biophysical Shore-Zone Mapping

The British Columbia Biophysical Shore-Zone Mapping system is a systematic inventory of the coastal zone for the Province, which describes the biological and physical features of the shore. Using an earlier physical shore-zone mapping system developed by the Land Use Coordination Office, the Biophysical Shore-Zone Mapping system progresses a step further in delineating biological habitat types by identifying 'bio-bands' and species data along the shore.

The mapping is a product of oblique, aerial video filmed in the spring at low-tide that supports a number of coastal conservation, protection and planning initiatives for the Province. Recently the State of Washington adopted the system for the Puget Sound and Canada together with the US plan to map the entire coast from the mouth of the Columbia River to the Alaskan border.

Similar to the BCMEC system, the Biophysical Shore-Zone Mapping system is also hierarchical, but specific to only the shore-zone. For a detailed report on the Biophysical Shore-Zone Mapping system, refer to the following website: http://srmwww.gov.bc.ca/dss/rpts/BCBiophysicalShore-ZoneMapping.pdf

3.6. Shellfish Aquaculture Biophysical Capability Assessments and Tourism Opportunity Studies

MAFF has conducted biophysical capability assessments for shellfish aquaculture in most areas of coastal BC, including the Malaspina Inlet Complex. The "capability" of an area refers strictly to fourteen environmental parameters, including salinity, temperature and exposure measured during beach and oceanographic surveys, which affect the ability of the environment to support the culture of Manila clams, Pacific oysters and Japanese scallops. Shellfish culture capability is based on field data collection along with a rating scheme that can be used during site-specific feasibility studies or at a broader scale to determine the potential of an area to support culture. Capability is different from "suitability" analyses which are conducted during site-specific or broader land use planning processes to determine social acceptability. This involves considering capability along with socio-economic and compatibility factors related to other existing and potential resource uses.

This Plan makes use of capability assessments that have been completed and mapped on a broad scale. For the Plan Area, shellfish aquaculture capability is shown on Planning Unit maps as well as the gallery maps at the following website address:

http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm (check this link once gallery maps are finished and posted!)

Capability assessments performed at this broad scale cannot be used to determine whether a specific site will be a good place to culture shellfish. Site specific capability and feasibility studies as well as tenure and licence application and referrals are still necessary to realize a shellfish farm at a particular site. The capability studies help proponent culturists to determine where they are most likely to find a site that can support culture, thereby helping to focus where to conduct feasibility studies.

The Province has conducted Tourism and Recreation Opportunity studies of the Sunshine Coast at a very broad scale as a data base for the formerly proposed Sunshine Coast Land and Resource Management Plan.

The Tourism Opportunity Study can be located at the following website: http://srmwww.gov.bc.ca/dss/initiatives/tourism/tos/should

3.7. Upland Status and Influence on Water Quality

For some time a common concern to residents in the Plan Area has been maintenance of water quality for recreation and tourism as well as for wild and cultured shellfish harvesting. As in all coastal areas there is a relationship in the Plan Area between activities in upland watersheds and marine water quality in terms of land-based sources of marine pollution. There is also potential for marine based sources of pollution such as dumping of sewage from vessels in the Plan Area.

Much of the watershed around the Plan Area is undeveloped, except for forestry activities. A significant portion of the Plan Area is adjacent to upland or marine park and a portion of west Okeover Inlet has been subjected to residential development. Except for a few small localized areas that have been closed to shellfish harvesting, water quality is still generally good in the Plan Area (see classification map on website [http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm].

The Okeover Roundtable, which includes representation from a variety of interest groups, provincial and federal agencies, PRRD and Sliammon (Tla'amin) First Nation, has been set up to address water quality issues in the inlet. The area is also subject to the Canadian Shellfish Sanitation Program - CSSP (see Acronyms and definitions for further information on the CSSP). Environment Canada and WLAP conduct routine water quality monitoring in the Plan Area and are involved with the Okeover Roundtable. There is also a Protocol Agreement between BC Fisheries (now MAFF), The BC Assets and Land Corporation (now LWBC), MOF, and BC Parks (WLAP), signed in 2001 to cooperate to manage public recreation and other resource use activities to maintain shellfish growing water certification and shellfish farming opportunities within the Malaspina Complex (See Appendix 3 for details).

A sensitive ecosystem inventory (SEI) has also been completed for the terrestrial areas adjacent to the Plan Area. While a map is available and has been used in the description of the Planning Units within this Plan (available on the website for this plan), the associated SEI report is still pending. Information in that report should assist in evaluating the potential of watersheds adjacent to the Plan for their potential to influence marine water quality.

WLAP has been gearing the development of the Malaspina Provincial Park Plan to address the potential for water quality problems in the Plan Area from recreational activity in the park. This has included restricting marine access to the Sunshine Coast Trail to one spot at Cochrane Bay at the North end of the Plan Area. The Powell River Parks and Wilderness Society (PRPAWS) has also indicated its desire to maintain water quality through cooperation with WLAP. One of the tools for this has been a Protocol between PRPAWS and WLAP to avoid new water access from the Sunshine Coast Trail to Trevenen Bay.

3.8. Uses and Activities

This Plan addresses a range of uses and ivities that occur in foreshore and nearshore areas. It applies specialized definitions of the terms use and activity. Use refers to undertakings that are subject to provisions of the provincial *Land Act* requiring that they be tenured. Table 12 lists and describes tenured and non-tenured foreshore and nearshore uses that are addressed by this Plan. Table 14 describes non-tenured foreshore and nearshore activities that are recognized to occur in the Plan Area, but are not subject to use recommendations. Activities are undertakings that are not subject to provincial tenure. Planning Unit maps indicate where these uses and activities are located for each Planning Unit. Figure 25 (page 40) provides the legend for these uses and activities. This same legend as well as the maps for each unit are available at the following website address: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm.

3.9. Current Issues

Each Planning Unit section of this Plan includes a statement of issues specific to each Planning Unit raised during the public consultation process. However, there are also many issues common to all Planning Units and these have been presented at the beginning of Section 3.14, Planning Direction.

3.10. Use and Activity Recommendations

LWBC is the provincial agency responsible for administering *Land Act* and *Water Act* tenures. LWBC uses a variety of tenure types and tenure programs to manage the uses listed in Table 12. Figure 21 and Planning Unit maps which are available at website: [http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm] identify existing tenures according to tenure program. Users of this Plan should be aware that tenure programs do not exactly correspond with the uses listed in Table 12. This is because some tenure programs may apply to a very broad range of undertakings (i.e. Commercial A), and because some uses may require more than one type of tenure. Additional information on Provincial

Table 12. Foreshore and nearshore uses

Use	Description
Shellfish Beach Aquaculture	Growing and harvesting of shellfish on tenured beach or intertidal locations, usually in the substrate. This includes associated facilities such as docks and wharves.
Shellfish Off Bottom Water Aquaculture	Growing and harvesting of shellfish and other invertebrates in deep water locations, usually on suspended trays, lines or other structures anchored to the sea bed. This includes associated facilities such as docks and wharves.
Shellfish Subtidal Aquaculture	Growing and harvesting of shellfish and other invertebrates in subtidal locations. No surface floats or other structures.
Finfish Aquaculture	Farming for salmon and other finfish species in deep water net cages or other containment structures, anchored to the sea bed. Associated storage and accommodation facilities.
Boat Launches	Ramp or rail system used to deliver boats to and from the water. Includes fill based ramps and railways.
Log Handling, Storage & Infrastructure	Designed to for the storage and sorting of logs in the marine environment; or designed to permit the transfer of logs to and from the marine environment to facilitate sorting, transportation and processing. This includes associated facilities such as docks and wharves.
Conservation	Use for conservation of cultural and recreational resources, marine ecosystem or fish habitat, including areas required for scientific and research purposes. Existing regional and local parks, Land Act reserves or notations of interest for conservation; and existing provincial parks, ecological reserves, conservation or protection areas.
Commercial and Industrial Docks	Docks, wharves, piers, breakwaters and related structures associated with commercial or industrial activities such as marinas, boat houses, restaurants, resorts as well as facilities such as fish processing plants and ferry access. Structure may involve filling of the foreshore or pile and float based designs.
Public, Private and Institutional Docks	Docks, wharves, piers, breakwaters that provide specifically for non-commercial public and institutional moorage, access and use (i.e. private accommodation and access to recreation, parks, communities).
Float Homes	Floating structures used for residential purposes on a seasonal or continuous basis. Includes physical structure, improvements may include permanent private ways, boat house and walkway ramp or other pedestrian linkage to upland.
Mari[illegible] Telecommunications & Utilities	Underwater hydro, telephone, water and utility rights-of-way. Floating facilities associated with wave energy generating stations and other utility uses. This includes associated facilities such as docks and wharves.
Commercial Recreation Guiding	Extensive commercial recreation guiding operations, including kayaking, diving, wildlife viewing, and other ecotourism. Guiding is a temporary and transient use.
Floating Lodges and Camps	Continuous seasonal occupation of foreshore areas for haul-out of boats, camping and related activities, and access to camping on adjacent upland. Continuous seasonal moorage of floating camps or mother-ships. Camps or structures on pilings or floats. This includes associated facilities such as docks and wharves.
Private Residential Moorage	Year round facility composed of a single float dock, wharf or pier (including walkway ramp) or combination thereof, used for moorage by a number of individuals or a family unit solely for private use. Not normally removed in its entirety on a seasonal basis. Structure limited to floating and pile based designs. Private moorage is permitted where associated with private land or crown leases on upland.

Table 13. Foreshore and nearshore activities

Use	Description
First Nations	Traditional and existing uses including sustenance, spiritual, ceremonial; heritage sites & routes. ***NOTE: The Plan recommendations on acceptability of a tenure application do not alter or remove provincial agency obligations for First Nations consultation if specific development applications are accepted for processing.***
Public (Non-Commercial) Recreation	Wildlife viewing; swimming; kayak staging & landing areas; surfing; scuba diving; birding. Sport fishing (angling; fly-fishing); public harvesting of shellfish. Power boat, sailboat, canoe and kayak routes.
Commercial Fisheries	Fishing by vessel using a variety of gear-types in accordance with federal regulations, licenses and openings. Includes commercial clam and shellfish harvesting, and commercial crab, prawn and shrimp harvesting under license.
Marine Transportation	Tow, barge, and freighter routes.

Land and Water tenures as well as file numbers for specific tenure locations can be accessed by contacting LWBC.

This Plan makes recommendations regarding the acceptability of new applications for the uses listed in Table 12 for each Planning Unit. Acceptability of application each use is addressed according to the following coding and is based on the understanding that existing tenures will normally be allowed to continue and be renewed upon application, subject to provisions in tenure documents and Management Plans and agency policy and statutory requirements.

In addition, the presence or absence of non-tenured activities is identified in each unit as follows:

P	The non-tenured activity is present and ongoing in the Planning Unit
A	The non-tenured activity is absent from the Planning Unit

Coding

✓	Acceptable. Applications for this use should be accepted for processing and evaluation. Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
O	Conditionally Acceptable. New applications for this use should be accepted for processing and evaluation only if they meet the terms of relevant Management Conditions in the Plan (subject to variation process). Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
X	Not Acceptable. Applications for this use should not be accepted for processing and evaluation, based on known technological or environmental concerns, identified social preference or potential conflicts with existing uses and activities.

The Plan provides a variation process for uses marked as **X** or **O** under certain circumstances and conditions (in Section 5.8).

3.11. Determination of Acceptable Uses

The determination of acceptable uses is based on decision rules that consider existing use commitments, compatibility, and agency siting and best management practices (see Appendix 4: Decision Tools for a description of how acceptable uses are determined). This initial determination was refined to reflect review and discussion with the public, local planning advisory committee members, PRRD, Sliammon (Tla'amin) First Nation and stakeholder groups. The process is identified conceptually in the following diagram:

3.12. Management Emphasis

Based on these factors, each Planning Unit has been assigned a "management emphasis" category. These categories represent a characteristic "flavor" of existing values and uses, level of development, and opportunities, and each category reflects a difference in the management conditions that should be placed on approved uses and activities within Planning Units. An emphasis category is not intended as a conventional land use designation or zoning category, since existing and recommended uses and activities will not necessarily be the same for all units assigned the same management emphasis. There are three main types of management emphasis areas in this Plan: General Marine , Shellfish Aquaculture and Recreation.

■ GENERAL MARINE EMPHASIS ■

The four General Marine Emphasis units are characterized by access, multiple uses or development potential or a combination of all three, with ongoing non-tenured activities, such as marine transportation and navigation activities and commercial and recreational fishery activities.

Units include discrete provincially tenured uses such as log handling facilities and shellfish aquaculture. Management mechanisms applied to Planning Units in these areas include: management conditions, guidelines and follow-up actions to maintain fisheries access and navigational requirements and to minimize impacts of development or preclude development in specific areas. The conditions and guidelines for applications for tenured uses recognize, but do not restate, given requirements for proponents to abide by any enforceable provisions within existing or newly developed regulations, or applicable Provincial Codes of Practice that may be established for the specified use.

Preferred uses are those that would be compatible with ongoing activities and existing uses.

■ SHELLFISH AQUACULTURE EMPHASIS ■

The one Shellfish Aquaculture Emphasis unit contains multiple uses and is predominated by shellfish aquaculture, including some residential and recreation uses (primarily safe passage during weather events). The one unit in this category contains or is adjacent to areas valued for their recreational use. Preferred future use for this emphasis are uses and activities that are compatible with shellfish aquaculture values.

Management mechanisms applied in this unit includes: compatible or complementary uses only; management conditions, guidelines and follow-up actions intended to minimize impacts or conflicts on

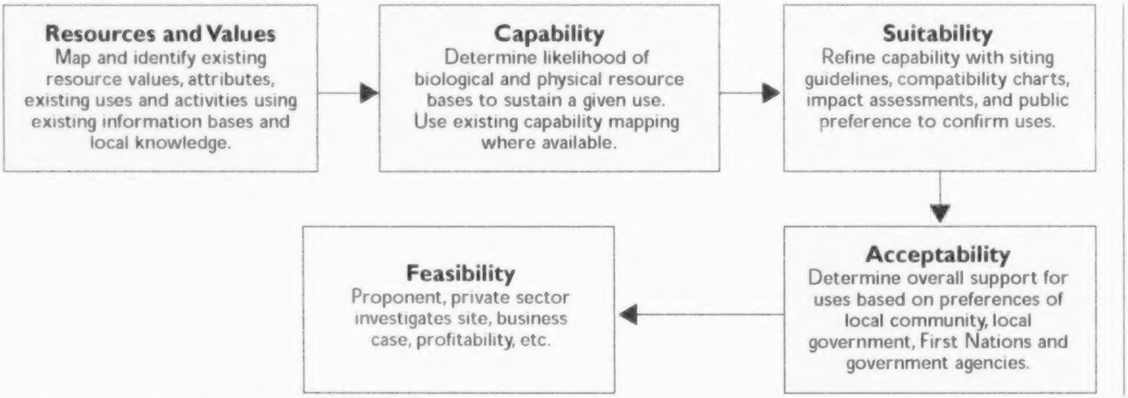
Resources and Values
Map and identify existing resource values, attributes, existing uses and activities using existing information bases and local knowledge.
Capability
Determine likelihood of biological and physical resource bases to sustain a given use. Use existing capability mapping where available.
Suitability
Refine capability with siting guidelines, compatibility charts, impact assessments, and public preference to confirm uses.
Acceptability
Determine overall support for uses based on preferences of local community, local government, First Nations and government agencies.
Feasibility
Proponent, private sector investigates site, business case, profitability, etc.

Figure 24. Generalized approach to determining acceptable uses for Planning Units.

3.11. Determination of Acceptable Uses

The determination of acceptable uses is based on decision rules that consider existing use commitments, compatibility, and agency siting and best management practices (see Appendix 4: Decision Tools for a description of how acceptable uses are determined). This initial determination was refined to reflect review and discussion with the public, local planning advisory committee members, PRRD, Sliammon (Tla'amin) First Nation and stakeholder groups. The process is identified conceptually in the following diagram:

3.12. Management Emphasis

Based on these factors, each Planning Unit has been assigned a "management emphasis" category. These categories represent a characteristic "flavor" of existing values and uses, level of development, and opportunities, and each category reflects a difference in the management conditions that should be placed on approved uses and activities within Planning Units. An emphasis category is not intended as a conventional land use designation or zoning category, since existing and recommended uses and activities will not necessarily be the same for all units assigned the same management emphasis. There are three main types of management emphasis areas in this Plan: General Marine , Shellfish Aquaculture and Recreation.

■ GENERAL MARINE EMPHASIS ■

The four General Marine Emphasis units are characterized by access, multiple uses or development potential or a combination of all three, with ongoing non-tenured activities, such as marine transportation and navigation activities and commercial and recreational fishery activities.

Units include discrete provincially tenured uses such as log handling facilities and shellfish aquaculture. Management mechanisms applied to Planning Units in these areas include: management conditions, guidelines and follow-up actions to maintain fisheries access and navigational requirements and to minimize impacts of development or preclude development in specific areas. The conditions and guidelines for applications for tenured uses recognize, but do not restate, given requirements for proponents to abide by any enforceable provisions within existing or newly developed regulations, or applicable Provincial Codes of Practice that may be established for the specified use.

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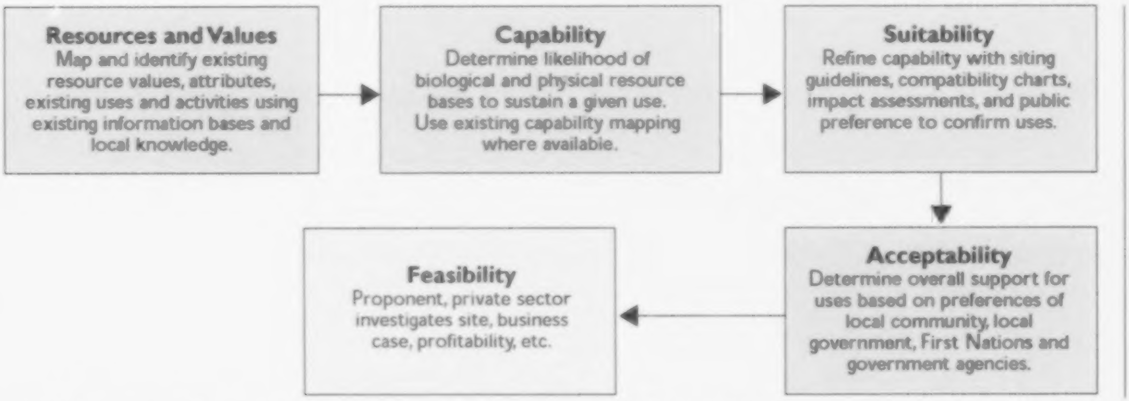
Management mechanisms applied in this unit includes: compatible or complementary uses only; management conditions, guidelines and follow-up actions intended to minimize impacts or conflicts on



Resources and Values
Map and identify existing resource values, attributes, existing uses and activities using existing information bases and local knowledge.

Capability
Determine likelihood of biological and physical resource bases to sustain a given use. Use existing capability mapping where available.

Suitability
Refine capability with siting guidelines, compatibility charts, impact assessments, and public preference to confirm uses.

Acceptability
Determine overall support for uses based on preferences of local community, local government, First Nations and government agencies.

Feasibility
Proponent, private sector investigates site, business case, profitability, etc.

Figure 24. Generalized approach to determining acceptable uses for Planning Units.

shellfish aquaculture and reserves or notations of interest to ensure tenure applications are compatible with values.

■ RECREATION EMPHASIS ■

Recreation emphasis units contain multiple uses that are predominated by public and commercial recreational activities, significant features and opportunities, and areas withdrawn or reserved from disposition for recreational values. These units also include some other activities and tenured uses as well as non-tenured activities.

Management mechanisms applied in these units include: compatible or complementary uses only; special management conditions, guidelines and follow-up actions intended to minimize impacts or conflicts during recreational seasons.

Preferred future uses are those that would be compatible with the recreation values and features on which the emphasis is based.

3.13. Management Conditions and Guidelines:

Following the Management Emphasis for each Planning Unit are Management Conditions and Management Guidelines. Where an application for a tenured use is considered conditional in a specific Planning Unit, Management Conditions relative to that use and specific to that Planning Unit are provided that set out what conditions have to be met before LWBC would accept a tenure application for that use in that unit. In some cases, conditions state that only existing uses are considered acceptable but no new applications or expansion applications would be acceptable. In other cases, conditions state that applications may be acceptable only in certain areas or that some other non-location-related requirement must be met for an application to be acceptable.

Management Guidelines specific to each Planning Unit are presented following the Management Conditions. These guidelines indicate additional management intent of the Plan either for new applications or measures associated with tenure operation. However, they are discretionary out of respect for individual agencies and the need to recognize that those agencies effect their licensing, inspection and enforcement roles under a complex set of site-specific, legal and policy constraints that cannot be adequately addressed at the scale of this Plan. In some cases the guidelines reflect the need for the Plan to remain equitable in the face of multiple use conflicts at the site-specific scale. Some management guidelines are common to all Planning Units but are repeated within each Planning Unit Direction section along with guidelines specific to that section so that all the guidelines that apply to that Unit are clearly indicated.

3.14. Follow-up Actions

Follow-up actions are items not directly related to tenuring decisions, but represent measures to be undertaken by government agencies to improve management of activities under tenure or related activities in the Plan Area.

3.15. Issues and Concerns

Issues and Concerns Stated by Local Government, First Nations, Stakeholders and the Public

All area residents, industry and interest groups share a common vision of maintaining marine and terrestrial ecosystem integrity and do not wish to create or be involved in conflicts with other resource users. However, as the planning process unfolded, a number of issues and concerns were stated by individuals, stakeholders, the PRRD and the Sliammon (Tla'amin) First Nation related to respective activities in Sliammon traditional territory, potential for noise and visual disturbance from shellfish aquaculture, spatial land use conflicts, access, water quality and environmental protection.

Following is an outline the issues and concerns raised to indicate that they were documented for fair consideration during the planning process:

■ FIRST NATIONS CONCERNS ■

(for additional details See Appendix 5: Concerns Stated by the Sliammon (Tla'amin) First Nation)

- Damage and disruption of archeological and heritage values.
- Plan area includes Indian Reserves and treaty settlement lands are ccurrently in the fanal stage of negotiations.

■ NOISE AND VISUAL DISTURBANCE FROM TENURED ACTIVITIES ■

- Potential for continuous noise and visual disturbance from shellfish aquaculture in the Plan area and especially in Okeover Inlet (described as natural amphitheater for noise transmission in a residential and staging area for recreation and tourism.
- Whether aquatic tenures for industry should be allowed in the Plan Area and especially Okeover Inlet as a staging area for the tourism and recreation industry and a focus for residential activity.
- Control of noise from shellfish aquaculture in Planning Units 1, 2, 4, 5, 6 which recreation and tourism interests consider to be in the primary marine corridor to Desolation Sound Marine Park.
- Effects of noise and visual disturbance from shellfish aquaculture in Unit 3 on the adjacent Units 2 and 4.
- Conflict over control of noise and visual disturbance in Okeover Inlet (non-renewal of existing tenures and prevention of further industrialization or mechanization of shellfish aquaculture through detailed prescriptions, versus leaving the control solely to the Farm Industry Review Board complaint resolution process).

■ SPATIAL LAND USE CONFLICTS ■

- Unauthorized use of Crown foreshore, including an abandoned float home in Unit 1.
- Call for additional opportunities for shellfish aquaculture, tourism and recreation development.
- Conflict between expansion of intertidal shellfish aquaculture tenures and the wild commercial clam fishery and potential for continued negative impact on the commercial clam fishery through the tenuring of productive beaches on Crown land for aquaculture, especially remaining "pocket" clam beaches in Unit 5 and larger areas in Theodosia Inlet.
- Negative impact of shoreline development on access to intertidal recreational viewing of marine biota.
- Potential for liability associated with commercial and public recreational access to shore areas, especially UREPs, through or near 'Licence of Occupation' tenures during times other than weather events that require safe passage (Coode UREP a particularly contentious area).
- Conflict over whether UREP designations should be maintained in the Plan Area.
- Adjacency of shellfish aquaculture to the Malaspina Provincial Park.
- Potential for aquaculture operations and tenures impeding navigation to safe anchorages.
- Appropriateness of including mid-channel areas within Planning Units and considering them for development opportunities.
- Need for private docks in the Plan Area.
- Call for PRRD to create a "tourism and private residential only" area designation for Okeover Inlet.

■ ACCESS ■

- Lack of access to beaches along kayak routes for safety purposes during bad weather events
- Maintenance of recreational access to several UREPs, including the Coode UREP in Units 2,3 and 4 and selected UREPS in Units 5, 6 and 7, including Freke Ancorage and Galahad Point.
- Access to beaches with small aggregate every 2 km along the eastern shore of Okeover Inlet for ocal paddlers.
- Maintenance of access to shore for convenience and safety of kayakers.
- Potential for restriction of public access to shore by anchor lines attached to upland vegetation (is an unauthorized use if the upland is not under tenure to the operator).

■ WATER QUALITY ■

- Elevated bacteriology levels at Freke Anchorage and near the government wharf area
- Presence of microbial indicators in the more developed areas such as the ditch at the end of Malaspina Road (near the government wharf) and the drainage into Freke Anchorage and general association of contamination with residential development.

- Year round shellfish harvesting closure at Freke Anchorage for all bi-valve mollusk species (DFO Sanitary Closure 15.2) due to bacterial contamination.
- Potential for deteriorating shellfish aquaculture growing water quality as a result of pollution from recreational users, upland developments and improper sewage disposal.
- Potential for fecal contamination associated with commercial and public recreational access to shore areas, especially UREPs, through or near 'Licence of Occupation' tenures during times other than weather events that require safe passage (Coode UREP a particularly contentious area).
- Lack of management responsibility for UREPs
- Need for a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.
- Need for the Malaspina Park Management Plan to protect downstream water licencees' water supply from contamination caused by human activity.
- 1994 PRRD resolution for a moratorium on further applications for commercial dock facilities in Okeover and Theodosia Inlets until such time as the impact of this type of facility on the Mariculture industry is ascertained.

■ ENVIRONMENTAL PROTECTION ■

- Potential for interaction between shellfish culture and diving ducks (scaring or killing migratory birds without the benefit of a permit is an offence under the *Migratory Birds Convention Act* and CWS policy is not to issue kill permits for aquaculture activities).
- Potential for harm to vegetation from attached anchor lines (is an unauthorized use if the upland is not under tenure to the operator).
- Mistaken perception that shellfish aquaculture occurs within the tidal range of eelgrass.
- Lack of protection for marine sensitive zones.
- Biological carrying capacity of the Plan Area to support shellfish aquaculture.
- Identification of Okeover (Tohk natch) Creek for a Marine Conservation Assessment.
- Sensitivity of habitat for spawning salmon populations in the Theodosia and Farm Rivers to disruption that may impact both migrating adults and juveniles.
- Potential for negative impacts on birds from shellfish aquaculture operations.

■ POTENTIAL EFFECTS OF RESOURCE USE ACTIVITIES ON OTHER RESOURCE USERS ■

- Damage to water lines resulting from vessels anchoring near utility rights of way.
- Navigation hazards from shellfish aquaculture, especially in Trevenen Bay.
- Intrusion from paddlers on upland tenures associated with adjacent shellfish tenure.
- Decreased Okeover Inlet West property values due to shellfish tenures and request for removal or relocation to Okeover Inlet East.

Legend

Planning unit

Biological Values

- Estuary
- Clam beach
- ▨ Kelp
- Eelgrass
- Herring spawn
- Anadromous salmonid stream
- ● Rare & endangered species

Physical Shoreline Classification

- Channel
- Estuary wetland
- Man-made
- Gravel beach
- Gravel flats
- Rock cliff
- Rock platform
- Rock with gravel beach
- Rock with sand & gravel beach
- Rock with sand beach
- Sand & gravel beach
- Sand & gravel flat
- Sand beach
- Sand flat
- Mud flat

Aquaculture Assessment

- Shellfish beach, clam - good or medium capability
- Shellfish beach, oyster - good or medium capability
- Shellfish deep water, oyster - good or medium capability
- Shellfish deep water, scallop - good or medium capability

Ownership and Tenure

- Private land
- First Nations reserve
- Treaty Settlement Lands
- Existing protected areas
- Protection areas
- Tenures
- Land Act reserve or map notation

Land/Water Act tenure & map reserve/notation sub-purpose codes

CA	Commercial A (year round)
CB	Commercial B (seasonal use)
CD	Commercial Dock
LH	Log handling/storage
MR	Map Reserve
O	Other
PD	Public Dock
R	Residential
RR	Rural/Recreational residential
SC	Science measurement & research facilities
SF	Shellfish aquaculture - Licence of Occupation
SF(L)	Shellfish aquaculture - Lease
SR	Shellfish map reserve
U	Marine telecommunications & utilities
UREP	UREP reserve

Non-Tenured Activities

- Cottages & Lodges
- ▲ Campsites
- Boat launch
- ⚓ Safe anchorage
- Sunshine Coast Trail

UNIT DESCRIPTIONS

Unit I Malaspina Inlet North

BLISS
LANDING
LUND

Marine Area	2.3 sq km
Substrate	Mud
Exposure	Low
Current	Low
Roughness	Low
Shoreline	7.4 km
Slope	Flat
Depth	Shallow-Mid-depth
Benthic Summer Temp	Warm

DESCRIPTION:

The unit consists of the northeastern shore of Malaspina Peninsula and serves as the conduit for tidal water exchange for the entire Malaspina Complex. The marine area extends to the boundaries of Desolation Sound Provincial Marine Park offshore from the Gifford Peninsula. The Planning Unit shoreline alternates between boulders and cobbles covering granitic bedrock. The unit has high biological, commercial and recreational values and is considered important by recreational groups for a recreational corridor to the two Provincial Parks and by shellfish growers for shellfish aquaculture. Access to the Sunshine Coast Trail in the park is limited, given the steep terrain and the distance of the trail from the shore.

BIOLOGICAL ATTRIBUTES:

- CWS confirmed areas of use by migratory birds: mouth of Malaspina Inlet and along the eastern shores of Malaspina Peninsula. Year round habitat for Alcids (Marbled Murrelet - COSEWIC Threatened), Cormorants, Diving Ducks, Gulls, Mergansers, Grebes, Dabbling Ducks, Shorebirds, Eagles and Loons.*
- Eelgrass beds (1.1 ha) in Parker Harbour and off Myrmidon Point.
- Kelp beds: 67.9 ha collectively; off Myrmidon Point (15.6 ha), Rosetta Rock (0.3 ha), Beulah and Thorp Islands (37.8 ha) and west of Cochrane Islands (3.3 ha).
- WLAP Terrestrial Ecosystem Mapping: Indicates predominantly mature conifer forest, particularly in the Park. Two main watersheds drain into the marine areas (see Malaspina Okeover Coastal Plan Sensitive Ecosystem Inventory Map at: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm).

FIRST NATIONS:

- Sliammon (Tla'amin):
  - Traditional Territory
  - area of archeological significance.
  - traditional cod, prawn and scallop fisheries.
  - traditional clam, sea cucumber and sea urchin harvest.
  - high traditional use area.
- Klahoose First Nation:
  - Traditional Territory

FEATURES AND ACTIVITIES:

- Two safe anchorages at Parker Harbour and west of Myrmidon Point.
- High use area for recreational boaters and paddlers.
- Adjacent to Desolation Sound Provincial Marine Park.
- Adjacent to Malaspina Provincial Park.
- Near to Sunshine Coast Trail.
- WLAP plans to establish limited trail access from the beach at one location (Cochrane Bay, located outside of the Plan Area).

Capability and Tenured Uses:

- Beach aquaculture capability: five beaches rated as Good or Medium for clams and oysters; south of Myrmidon Point, mouth of Hinder Creek, Parker Harbour and Thorp Islands.

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* Refer to Table 3 in Section 2 for specific species and Endangered and Threatened Provincial, National and Global Rankings.

- Off Bottom Oyster aquaculture capability: rated as Good or Medium throughout.
- Off Bottom Scallop aquaculture capability: rated as Poor throughout.
- Subtidal Shellfish aquaculture: No identified potential areas.
- Five shellfish aquaculture tenures: south of Myrmidon Point, south of Parker Harbour, Beulah Island and south of Thorp Island; collectively occupying 16.9 ha.
- One commercial 'B' (seasonal) tenure (0.3 ha) south of Thorp Island.
- Two *Water Act* freshwater tenures at Hinder Creek and south of Thorp Island.
- One *Land Act* shellfish map reserve (1 ha) northwest of Thorp Island in favour of LWBC for purposes of shellfish aquaculture.
- One *Land Act* log storage and handling map reserve (13 ha) south of Rosetta Rock in favour of MOF for purposes of resource Inventory.

MANAGEMENT EMPHASIS:

- Recreation: This unit should be managed for multiple use while maintaining water quality and recreational values. The intent is to maintain marine environmental quality in context with recreational corridor and adjacent park values, while providing some opportunities for shellfish aquaculture development.

MANAGEMENT CONDITIONS:

- Applications for shellfish beach aquaculture are restricted to renewal and assignment of existing tenures and to new applications for the foreshore adjacent to private lands at Hinder Creek and at the shellfish aquaculture reserve northwest of Thorp Island.
- Applications for shellfish off bottom aquaculture are restricted to:
    - renewal and assignment of existing tenures;
    - new applications for the shellfish aquaculture reserve northwest of Thorp Island;
    - south expansion of the existing operation located south of Myrmidon Point;
    - expansion of the existing tenures adjacent to

Use Recommendations (based on "acceptability")

Tenured Uses

O	Shellfish Beach Aquaculture	O	Public and Institutional Docks
O	Shellfish Off Bottom Aquaculture	X	Commercial and Industrial Docks
✓	Shellfish Sub tidal Aquaculture	X	Float Homes
X	Finfish Aquaculture	✓	Marine Telecommunications & Utilities
O	Boat Launches	✓	Commercial Recreation Guiding
O	Log Handling, Storage and Infrastructure	O	Private Residential Moorage
✓	Conservation	X	Floating Lodges & Camps

Non-Tenured Uses

P	First Nations	P	Public Recreation (non-commercial)
P	Commercial Fisheries	P	Marine Transportation

Code

✓	**Acceptable.** Applications for this use should be accepted for processing and evaluation. Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
O	**Conditionally Acceptable.** New applications for this use should be accepted for processing and evaluation only if they meet the terms of relevant Management Conditions in the Plan (subject to variation process). Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
X	**Not Acceptable.** Applications for this use should not be accepted for processing and evaluation based on known technological or environmental concerns, identified social preference or potential conflicts with existing uses and activities. .
P	The non-tenured activity is present and ongoing in the Planning Unit
A	The non-tenured activity is absent from the Planning Unit

Thorp Island into the Shellfish Reserve only; and,
  - south expansion of the southernmost existing tenure to, but not including, the Log Handling Reserve.

- Applications for boat launches are restricted to foreshore adjacent to private lands at Hinder Creek and are conditional on siting of locations with rocky substrate and siting to avoid potential impacts on shellfish beach aquaculture in keeping with the interagency protocol (See Appendix 3).
- Applications for log storage and handling tenure are restricted to the current location of the MOF map reserve and must not extend beyond existing reserve boundaries.
- Applications for public and institutional docks are restricted to foreshore adjacent to private lands at Hinder Creek.
- Applications for private residential moorage are restricted to nearshore waters adjacent to private lands at Hinder Creek.

MANAGEMENT GUIDELINES:

- Applications for commercial or industrial uses throughout the Plan Area should be either referred directly to CWS (via Environment Canada's Environmental Assessment Section) or to DFO for subsequent referral to CWS .
- In developing and implementing a Park Management Plan for the Malaspina Provincial Park WLAP should take into account the need to protect the downstream foreshore areas from sources of pollution and impacts on shellfish aquaculture as per the interagency protocol agreement (See Appendix 3. This is with particular reference to managing marine access to the Sunshine Coast Trail and activities in the vicinity of riparian areas to reduce the potential for bacterial contamination reaching marine areas via freshwater streams.
- Operators seeking bird scare permits from the Canadian Wildlife Service (CWS) should demonstrate due diligence in using siting and other mitigative measures to reduce the likelihood or the effect of diving duck predation (CWS has indicated that it will not issue kill permits for aquaculture activities).
- People with complaints related to practices used by shellfish aquaculture operators should consider the dispute resolution options Appendix 6 (Regulation of shellfish aquaculture and dispute resolution). Appendix 6 includes a description of the Farm Industry Review Board (FIRB) formal compliant process under the *Farm Practices Protection (Right to Farm) Act* (FPPA).
- Commercial recreation guiding operators should:
  - employ operating practices that minimize negative physical effects on shellfish aquaculture tenures and promote client non-access across shellfish tenures, except as a safety measure.
  - provide clients with portable sewage containers and instructions for their use to avoid contamination of shellfish harvesting and growing areas within approved guidelines (see Appendix 3 – Protocol Agreement for Managing the Public Recreation and Water Quality in the Malaspina/Okeover Inlet Complex).
- The Council of BC Yacht Clubs is encouraged to educate its members to not anchor adjacent to or over shellfish aquaculture tenures when members' boats are not equipped with sewage holding tanks.
- All entities interested in obtaining a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.
- The Vancouver Coastal Health Authority is encouraged to enforce sewage disposal regulations in the area.
- Provincial agencies and the PRRD and Sliammon (Tla'amin) First Nation should work together to identify and address unauthorized uses under the *Land Act*, including float homes.
- All tenure operators should make every effort to employ methods to avoid noise and visual disturbances from structures and operating equipment.
- Recreation and tourism operators should encourage their clients to not use personal watercraft.
- Utility owners are encouraged to post a sign at the site of the utilities indicating location of the utilities.
- Tourism and recreation operators should educate their clients on the location of utility rights of way

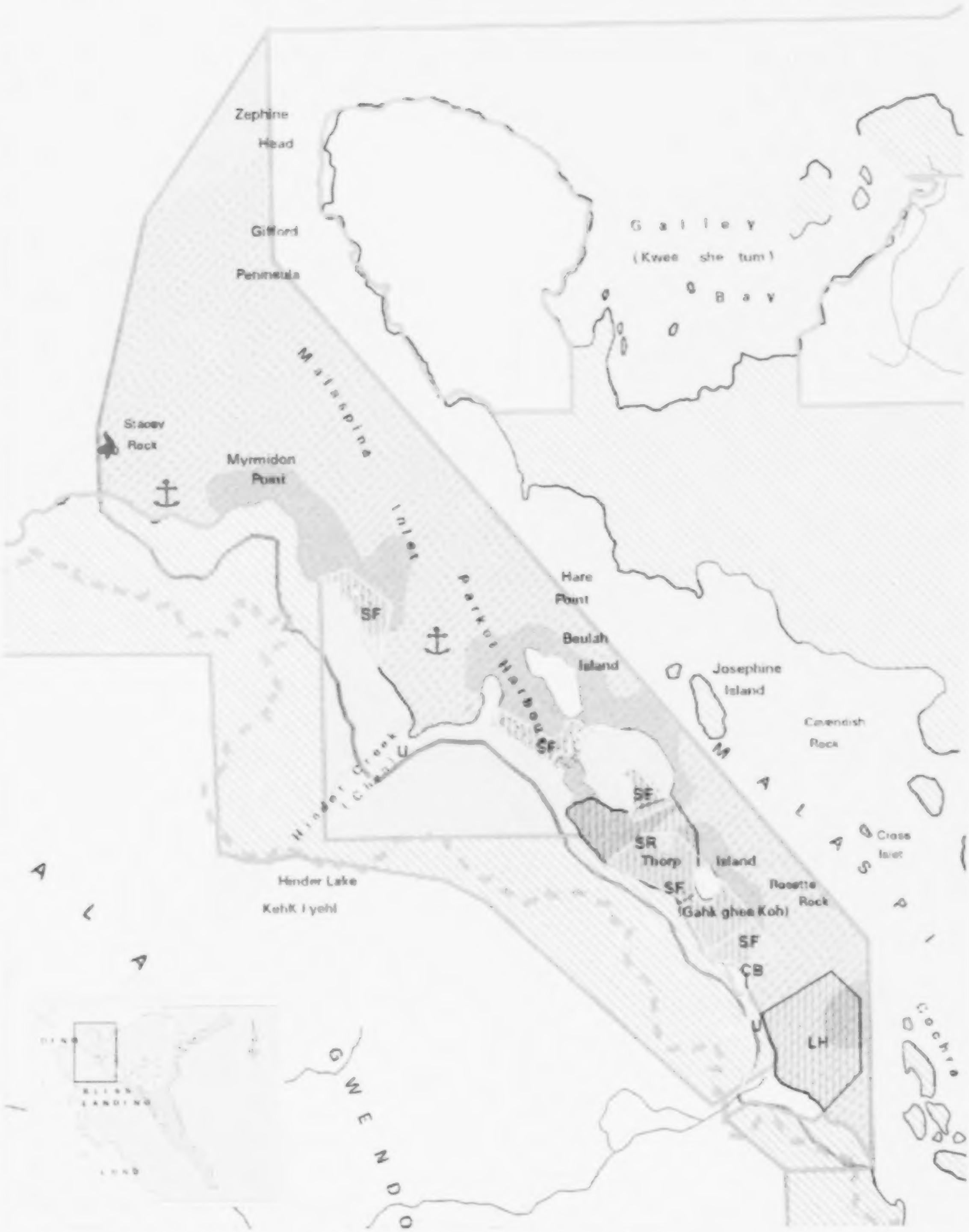
and advise that vessel operators should not anchor in the vicinity of those rights of way.

- Given the potential for sewage contamination of marine areas from upland areas with residential development, the PRRD and Sliammon (Tla'amin) First Nation should jointly develop an Official Community Plan for the area that seeks to avoid further contamination of marine areas in the unit.
- Shellfish aquaculture beach and off bottom operators should avoid the use of upland vegetation (i.e. shrubs and trees) for tenure anchoring purposes. Anchoring to trees on untenured Crown land constitutes an unauthorized use of Crown land.
- Shellfish aquaculture operators with Leases should provide signage that indicates that trespassing is not allowed without permission of the operator.
- If the results of ecological studies or monitoring of predator netting effects in Baynes Sound, Barkley Sound and Malaspina Okeover areas demonstrate unacceptable impacts, shellfish beach aquaculture operators should undertake measures to avoid those impacts.
- Tenure holders must ensure adequate sewage disposal facilities are available nearby for staff on site.
- Tenure operators must avoid stream channeling, building berms or any other habitat alteration, without specific DFO authorization, that could result in habitat impacts and federal *Fisheries Act* violations.

FOLLOW-UP ACTION:

- Maintain *Land Act* shellfish aquaculture map reserve northwest of Thorp Island in favour of MAFF for purposes of shellfish aquaculture application.
- Maintain *Land Act* log storage and handling map reserve south of Rosetta Rock in favour of MOF for purposes of resource inventory.
- MSRM to provide LWBC and MAFF with a map of the registered archeological sites in the Plan Area as a data base for consideration during any assessments and consultations conducted during their respective tenure application reviews.
- MSRM to provide the PRRD with a large scale Planning Unit map to assist it in determining location of tenures and other values in this unit.
- MSRM Archeology and Registries Services Branch to meet with the Sliammon to discuss enforcement options related to the Heritage Resource Act.

1 - Malaspina Inlet N


Zephine Head
Gifford Peninsula
Galley (Kwee she tum) Bay
Stacey Rock
Myrmidon Point
Malaspina Inlet
Parker Harbour
Hare Point
Beulah Island
Josephine Island
Cavendish Rock
SF
U
Hinder Creek Channel
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Thorp Island
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Rosette Rock
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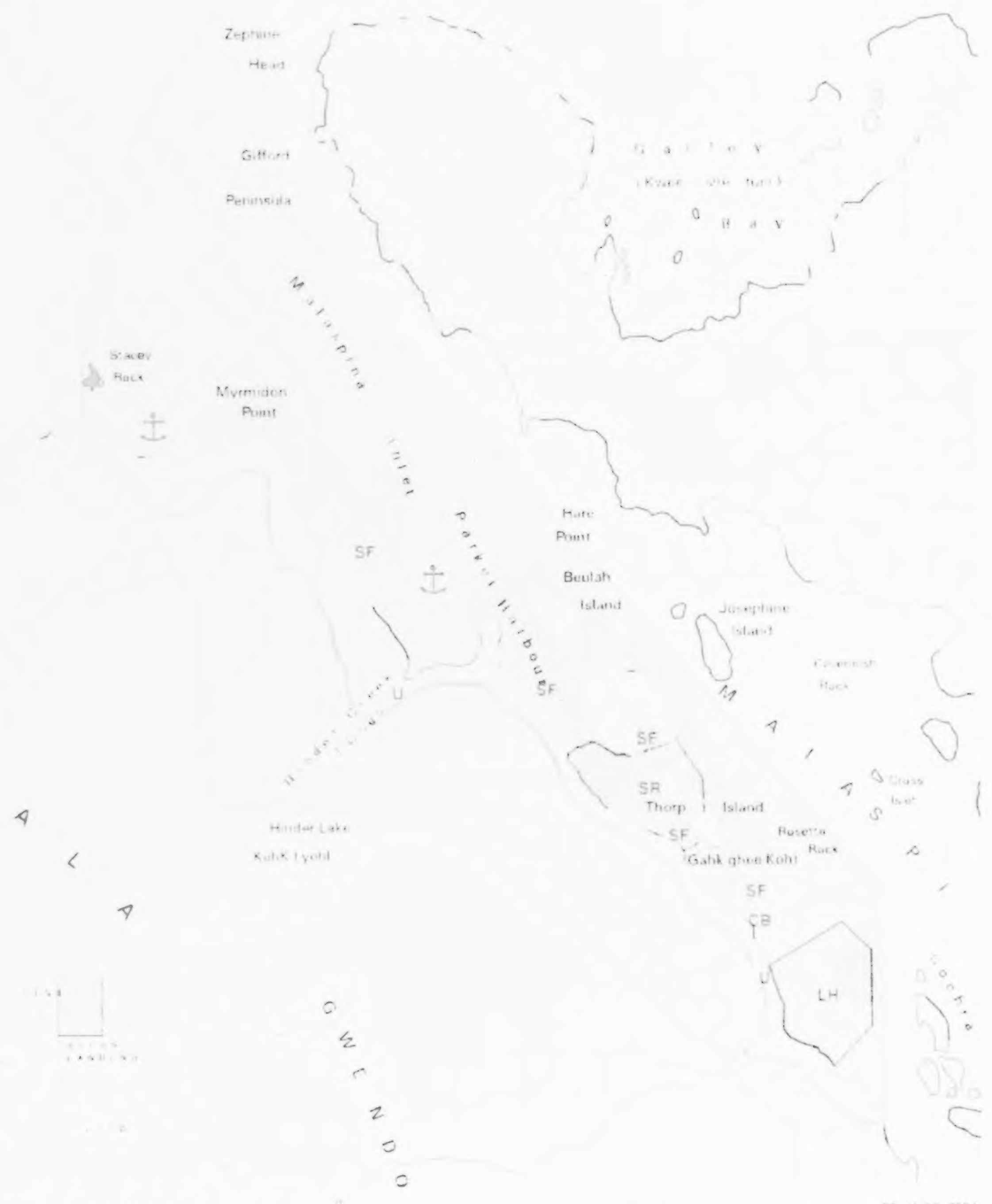
Ministry of Sustainable Resource Management
Decision Support Services / Coast & Marine Planning Branch

March 02, 2004
NOTE: Some data may not be accurate at the scale depicted

1 - Malaspina Inlet N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Stacey Rock
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Parker Harbour
Beulah Island
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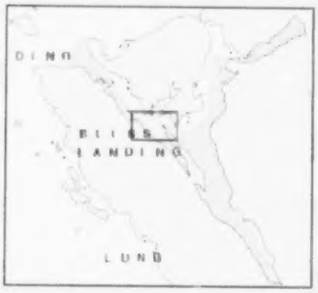
Gahk ghee Kohl
Hinder Lake
Cross Islet
MALASPINA
GWENDO

Ministry of Sustainable Resource Management
Decision Support Services / Coast & Marine Planning Branch

Kilometres

March 02, 2004
NOTE: Some data may not be accurate at the scale depicted

Unit 2 Malaspina Inlet South



Marine Area	1.0 sq km
Substrate	Mud
Exposure	Low
Current	Low
Roughness	Low
Shoreline	3.0 km
Slope	Flat
Depth	Shallow-Mid-depth
Benthic Summer Temp	Warm

DESCRIPTION

The unit consists of the juncture point of Malaspina and Okeover Inlets and Trevenen Bay. This inner portion of Malaspina Inlet is deeper than the entrance and well protected from open water waves coming from Georgia Strait. The shoreline is primarily rock cliffs and platforms with sand and gravel veneers. The unit has moderate biological and high commercial values, particularly for shellfish aquaculture, and serves as a recreational corridor for boaters and kayakers on route to Desolation Sound Marine Park. Currents and exposure are particularly strong for the area at the north tip of the Isbister Islands.

BIOLOGICAL ATTRIBUTES:

- CWS confirmed areas of use by migratory birds: along the eastern shores of Malaspina Peninsula. Year round habitat for Alcids (Marbled Murrelet – COSEWIC Threatened), Cormorants, Diving Ducks, Gulls, Mergansers, Grebes, Dabbling Ducks, Shorebirds, Eagles and Loons. *
- Eelgrass beds (0.1 ha) off Kakaekae Point.
- Kelp beds (26.6 ha) collectively; off Scott Point (1.6 ha), Isbister Islands (6.8 ha) and eastern shore of Malaspina Peninsula (16.5 ha).
- WLAP Terrestrial Ecosystem Mapping: Indicates significant mature conifer forest coverage along coastal fringe. Two main watersheds drain into the marine areas (see Malaspina Okeover Coastal Plan Sensitive Ecosystem Inventory Map at: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm).

FIRST NATIONS:

- Sliammon (Tla'amin):
  - Traditional Territory
  - area of archeological significance.
  - traditional cod, prawn and scallop fisheries.
  - traditional clam, sea cucumber and sea urchin harvest.
  - high traditional use area.
- Klahoose:
  - Traditional Territory.

FEATURES AND ACTIVITIES:

- High use area for recreational boaters and paddlers.
- Adjacent to Desolation Sound Provincial Marine Park.
- Adjacent to Malaspina Provincial Park.
- Near to Sunshine Coast Trail.
- Local knowledge indicates that Isbister Islands' UREP has particularly high recreational value and serves as a key stopover for kayakers on route to Gifford Peninsula, although strong currents and large waves periodically produce dangerous water conditions, especially for potential tenure operators. The area is subject to safety concerns if there is much expansion of the shellfish aquaculture industry. .

CAPABILITY AND TENURED USES:

- Beach aquaculture capability: two beaches rated as Good or Medium for clams and oysters; across from Kakaekae Point and northeastern tip of Coode Island.

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* Refer to Table 3 in Section 2 for specific species and Endangered and Threatened Provincial, National and Global Rankings.

- Off Bottom Oyster aquaculture capability: rated as Good or Medium throughout.
- Off Bottom Scallop aquaculture capability: rated as Poor throughout.
- Sub tidal Shellfish aquaculture: No identified potential areas.
- Six shellfish aquaculture tenures: four along Malaspina Peninsula across from Kakaekae Point and two at Isbister Islands; collectively occupying 20.2 ha.
- One commercial 'A' (year round) tenure (0.12 ha) on Malaspina Peninsula across from Kakaekae Point.
- One commercial 'B' (seasonal) tenure (0.7 ha) west of Isbister Islands on Malaspina Peninsula (same as in Unit 3).
- Two *Water Act* freshwater tenures: across from Kakaekae Point on Malaspina Peninsula and on Coode Island.
- One *Land Act* UREP notation of interest (104 ha) on Isbister and Coode Islands (same as in Unit 3 and 4) in favour of MSRM respecting the interests of the MOF, BC Parks, and the PRRD for purposes of conservation and passive recreation.
- One *Land Act* map reserve (4.4 ha) west of Isbister Islands adjacent to Malaspina Peninsula (same as in Unit 3) in favour of MSRM.

MANAGEMENT EMPHASIS:

- General Marine: This unit should be managed to accommodate multiple use. The intent is to maintain environmental and recreational quality, while providing opportunities for commercial development.

MANAGEMENT CONDITIONS:

- Applications for shellfish beach culture are restricted to renewal and assignment of existing tenures.
- Applications for shellfish off bottom aquaculture are restricted to:
  - renewal and assignment of existing tenures;
  - expansion westward of tenure north of Coode Island; and.

Use Recommendations (based on "acceptability")

Tenured Uses

O	Shellfish Beach Aquaculture	X	Public and Institutional Docks
O	Shellfish Off Bottom Aquaculture	X	Commercial and Industrial Docks
✓	Shellfish Sub tidal Aquaculture	X	Float Homes
X	Finfish Aquaculture	✓	Marine Telecommunications & Utilities
X	Boat Launches	✓	Commercial Recreation Guiding
X	Log Handling, Storage and Infrastructure	X	Private Residential Moorage
✓	Conservation	X	Floating Lodges & Camps

Non-Tenured Uses

P	First Nations	P	Public Recreation (non-commercial)
P	Commercial Fisheries	P	Marine Transportation

Code

✓	**Acceptable.** Applications for this use should be accepted for processing and evaluation. Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
O	**Conditionally Acceptable.** New applications for this use should be accepted for processing and evaluation only if they meet the terms of relevant Management Conditions in the Plan (subject to variation process). Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
X	**Not Acceptable.** Applications for this use should not be accepted for processing and evaluation based on known technological or environmental concerns, identified social preference or potential conflicts with existing uses and activities. .
P	The non-tenured activity is present and ongoing in the Planning Unit
A	The non-tenured activity is absent from the Planning Unit

  - eastward expansion of tenures adjacent to Malaspina Peninsula.

MANAGEMENT GUIDELINES:

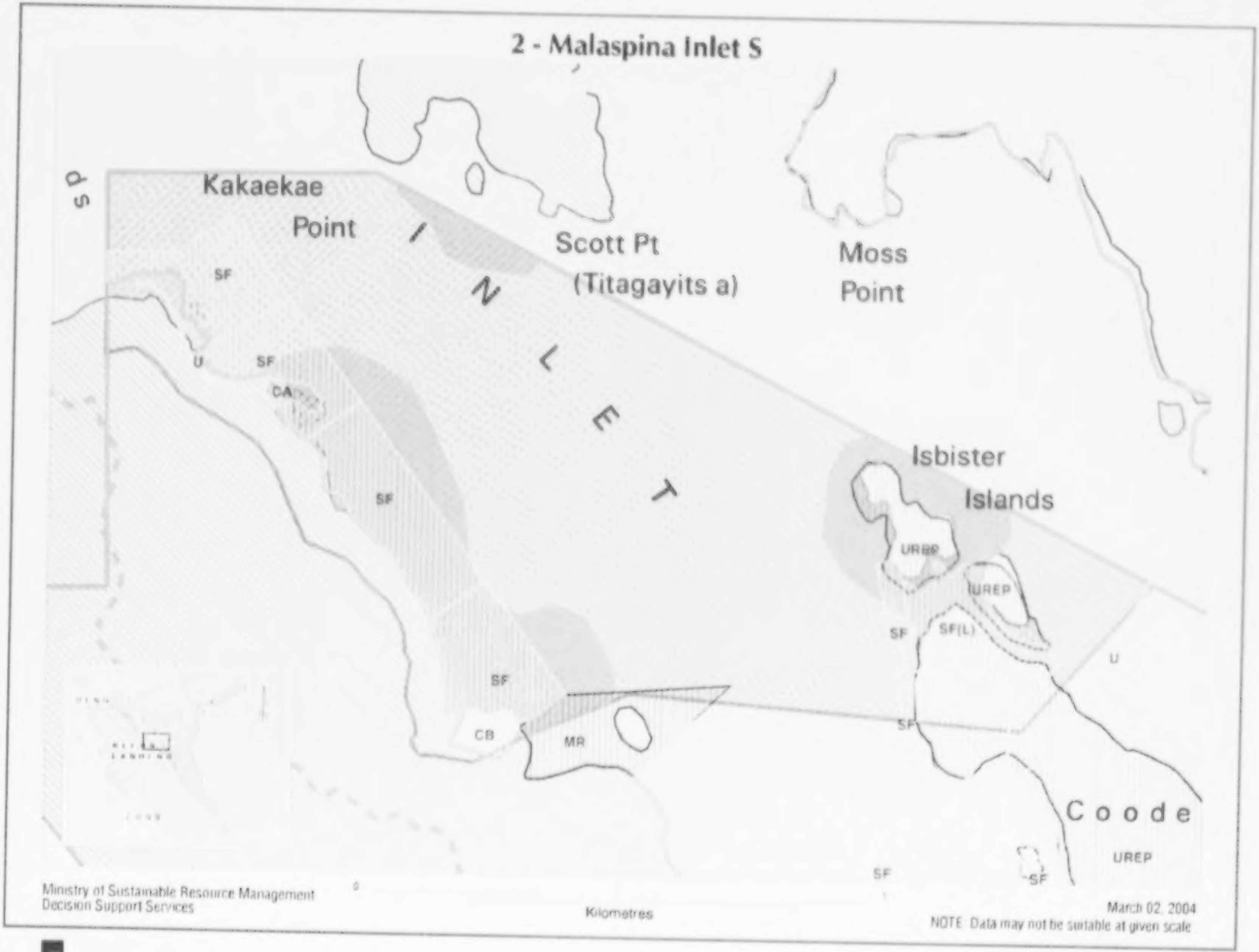
- Applications for commercial or industrial uses throughout the Plan Area should be referred to either directly to CWS (via Environment Canada's Environmental Assessment Section) or to DFO for subsequent referral to CWS.
- In developing and implementing a Park Management Plan for the Malaspina Provincial Park WLAP should take into account the need to protect the downstream foreshore areas from sources of pollution and impacts on shellfish aquaculture as per the interagency protocol agreement (See Appendix 3). This is with particular reference to managing marine access to the Sunshine Coast Trail and activities in the vicinity of riparian areas to reduce the potential for bacterial contamination reaching marine areas via freshwater streams.
- Operators seeking bird scare permits from the Canadian Wildlife Service (CWS) should demonstrate due diligence in using siting and other mitigative measures to reduce the likelihood or the effect of diving duck predation (CWS has indicated that it will not issue kill permits for aquaculture activities).
- People with complaints related to practices used by shellfish aquaculture operators should consider the dispute resolution options described in Appendix 6 (Regulation of shellfish aquaculture and dispute resolution). Appendix 6 includes a description of the Farm Industry Review Board (FIRB) formal compliant process under the *Farm Practices Protection (Right to Farm) Act* (FPPA).
- All tenure operators should make every effort to employ methods to avoid noise and visual disturbances from structures and operating equipment.
- Recreation and tourism operators should encourage their clients to not use personal watercraft.
- Commercial recreation guiding operators should:
  - employ operating practices that minimize negative physical effects on shellfish aquaculture tenures and promote client non-access across shellfish tenures, except as a safety measure.
  - provide clients with portable sewage containers and instructions for their use to avoid contamination of shellfish harvesting and growing areas within approved guidelines (see Appendix 3 – Protocol Agreement for Managing the Public Recreation and Water Quality in the Malaspina/Okeover Inlet Complex).
- Tenure operators must avoid stream channeling, building berms or any other habitat alteration, without specific DFO authorization, that could result in habitat impacts and federal *Fisheries Act* violations.
- The Council of BC Yacht Clubs is encouraged to educate its members to not anchor adjacent to or over shellfish aquaculture tenures when members boats are not equipped with sewage holding tanks.
- All entities interested in obtaining a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.
- The Vancouver Coastal Health Authority is encouraged to enforce sewage disposal regulations in the area.
- Provincial agencies and the PRRD and Sliammon (Tla'amin First Nation) should work together to identify and address unauthorized uses under the *Land Act*, including float homes.
- Utility owners are encouraged to post a sign at the site of the utilities indicating location of the utilities.
- Tourism and recreation operators should educate their clients on the location of utility rights of way and advise that vessel operators should not anchor in the vicinity of those rights of way.
- Tourism and recreation operators should educate their clients regarding potential for contaminating shellfish growing areas, promote client non-access across shellfish tenures, except as a safety measure, and provide information on how to avoid sewage contamination of shellfish areas.
- Given the potential for sewage contamination of marine areas from upland areas with residential development, the PRRD and Sliammon (Tla'amin) First Nation should jointly develop an Official Community Plan for the area that seeks to

avoid further contamination of marine areas in the unit.

- Shellfish aquaculture beach and off bottom operators should avoid the use of upland vegetation (i.e. shrubs and trees) for tenure anchoring purposes. Anchoring to trees on untenured Crown land constitutes an unauthorized use of Crown land.
- Shellfish aquaculture operators with Leases should provide signage that indicates that trespassing is not allowed without permission of the operator.
- If the results of ecological studies or monitoring of predator netting effects in Baynes Sound, Barkley Sound and Malaspina Okeover areas demonstrate unacceptable impacts, shellfish beach aquaculture operators should undertake measures to avoid those impacts.
- Tenure holders must ensure adequate sewage disposal facilities are available nearby for staff on site.

FOLLOW-UP ACTION:

- Maintain *Land Act* UREP notation of interest (104 ha) on Isbister and Coode Islands (same as in Unit 3 and 4) in favour of MSRM respecting the interests of the MOF, BC Parks, and the PRRD for purposes of conservation and passive recreation.
- Maintain *Land Act* map reserve west of Isbister Islands on 'unnamed' island adjacent to Malaspina Peninsula (same as in Unit 3) in favour of MSRM.
- MSRM to provide the PRRD with a large scale Planning Unit map to assist it in determining location of tenures and other values in this unit.
- MSRM Archeology and Registries Services Branch to meet with the Sliammon to discuss enforcement options Related to the Heritage Resources Act.
- MSRM to provide LWBC and MAFF with a map of the registered archeological sites in the Plan Area as a data base for consideration during any assessments and consultations conducted during their respective tenure application reviews.


2 - Malaspina Inlet S
ds
Kakaekae
Point
Scott Pt
(Titagayits a)
Moss
Point
INLET
Isbister
Islands
SF
U
SF
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MR
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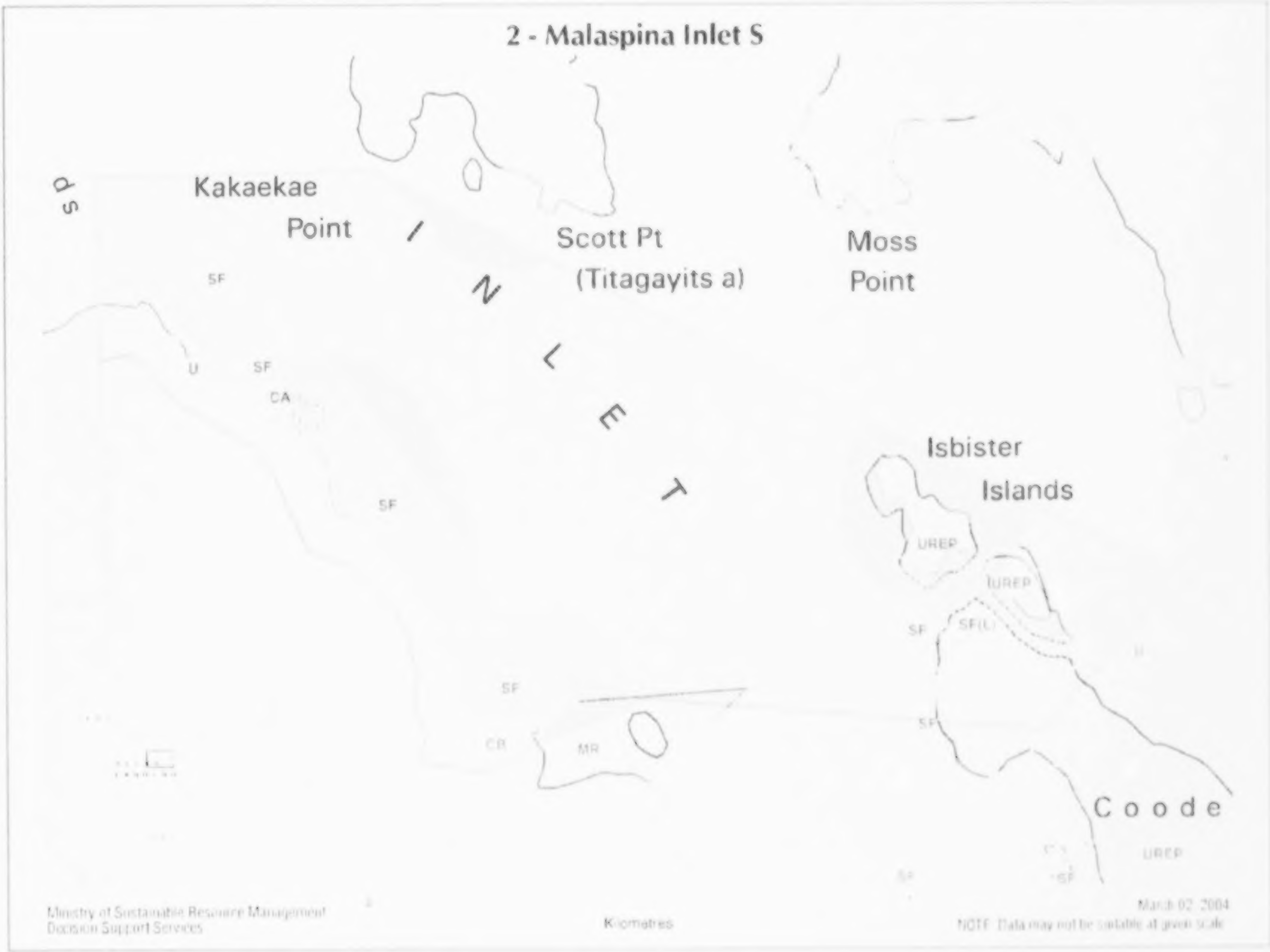
Ministry of Sustainable Resource Management
Decision Support Services

March 02, 2004
NOTE: Data may not be suitable at given scale



2 - Malaspina Inlet S

Kakaekae Point
Scott Pt (Titagayits a)
Moss Point
Isbister Islands
Coode
INLET
ds
SF
U
SF
CA
SF
SF
CR
MR
UREP
UREP
SF(L)
SF
SF
UREP
SF
Kilometres

Ministry of Sustainable Resource Management
Decision Support Services

March 02, 2004
NOTE: Data may not be suitable at given scale

Unit 3 Trevenen Bay

DINNO
BLISS LANDING
LUND

Marine Area	1.0 sq km
Substrate	Mud
Exposure	Low
Current	Low
Roughness	Low
Shoreline	7.3 km
Slope	Flat
Depth	Shallow-Mid-depth
Benthic Summer Temp	Warm

DESCRIPTION

Trevenen Bay is a long narrow water body situated between Coode and Malaspina Peninsulas. The shoreline is a mixture of rock ramps with veneer coarse sediments and a sand flat lies at the head of the Bay. This unit has moderate biological and recreational values and a high commercial value primarily due to the concentrated development of shellfish aquaculture tenures.

BIOLOGICAL ATTRIBUTES:

- CWS confirmed areas of use by migratory birds: Trevenen Bay. Year round habitat for Alcids (Marbled Murrelet – COSEWIC Threatened), Cormorants, Diving Ducks, Gulls, Mergansers, Grebes, Dabbling Ducks, Shorebirds, Eagles and Loons.
- Eelgrass beds (1.1 ha) at head of Trevenen Bay.
- Herring spawn (1.3 km) across from Coode Island along the eastern shore of Malaspina Peninsula.
- Kelp beds (1.5 ha) at mouth of Trevenen Bay adjacent to Malaspina Peninsula.
- WLAP Terrestrial Ecosystem Mapping: Indicates that the terrestrial areas adjacent to Malaspina Peninsula Coode Peninsulas have almost exclusive mature conifer forest coverage. One Malaspina Peninsula watershed with two riparian fringe areas discharge via a stream to Trevanen Bay. (see Malaspina Okeover Coastal Plan Sensitive Ecosystem Inventory Map at: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm).

* Refer to Table 3 in Section 2 for specific species and Endangered and Threatened Provincial, National and Global Rankings.

FIRST NATIONS:

- Sliammon (Tla'amin):
  - Traditional Territory
  - area of archeological significance.
  - high traditional use area.
- Klahoose:
  - Traditional Territory

FEATURES AND ACTIVITIES:

- Use area for recreational boaters and paddlers when weather is inclement.
- Close to Desolation Sound Provincial Marine Park.
- Adjacent to Malaspina Provincial Park.
- Sunshine Coast Trail.

CAPABILITY AND TENURED USES:

- Beach aquaculture capability: five beaches rated as Good or Medium for clams and oysters; north and south of 'unnamed' peninsula protruding from Malaspina Peninsula, southern shore of Coode Island, western shore of Coode Peninsula, and head of Trevenen Bay.
- Off Bottom Oyster aquaculture capability: rated as Good or Medium throughout.
- Off Bottom Scallop aquaculture capability: rated as Poor throughout.
- Sub tidal Shellfish aquaculture: No identified potential areas.
- Eight shellfish aquaculture tenures: four along eastern shore of Malaspina Peninsula and four along western shore of Coode Peninsula; collectively occupying 61.5 ha.

- One commercial 'A' (year round) tenure (1 ha) on the Malaspina Peninsula across from Coode Island.
- One commercial 'B' (seasonal) tenure west of Isbister Islands on the Malaspina Peninsula (same as in Unit 2).
- Four Water Act freshwater tenures on the adjacent upland: from Wednesday Lake to Penrose Harbour, Coode Island and Selina Point (Gifford Peninsula).
- One *Land Act* shellfish map reserve (1.2 ha) on northwestern tip of Coode Peninsula in favour of LWBC for purposes of shellfish aquaculture.
- One *Land Act* UREP notation of interest (104 ha) on Isbister and Coode Islands (same as in Unit 3 and 4) in favour of MSRM respecting the interests of the MOF, BC Parks, and the PRRD for purposes of conservation and passive recreation (same as in Unit 2 and 4).
- One *Land Act* scientific measurement/ research reserve (0.9 ha) across from Coode Island in favour of MOF for purposes of conservation and recreation.
- One "other" map reserve (1.8 ha) along eastern shore of Malaspina Peninsula in favour of MOF for institutional purposes.

MANAGEMENT EMPHASIS:

- Shellfish Aquaculture: This unit should be managed for shellfish aquaculture while recognizing the need for safe passage for paddlers during inclement weather. Maintaining high water quality necessary for shellfish culture is paramount.

MANAGEMENT CONDITIONS:

- Applications are restricted to assignment or renewal of existing tenures for beach or off-bottom shellfish aquaculture;
- LWBC should not accept applications for tenure expansion or new tenures for shellfish beach aquaculture for a period of 3 years, consistent with the 3 year Plan review (i.e. in consultation with the Advisory Committee).

Use Recommendations (based on "acceptability")

Tenured Uses

O	Shellfish Beach Aquaculture	X	Public and Institutional Docks
O	Shellfish Off Bottom Aquaculture	X	Commercial and Industrial Docks
X	Shellfish Sub tidal Aquaculture	X	Float Homes
X	Finfish Aquaculture	✓	Marine Telecommunications & Utilities
X	Boat Launches	X	Commercial Recreation Guiding
X	Log Handling, Storage and Infrastructure	X	Private Residential Moorage
✓	Conservation	X	Floating Lodges & Camps

Non-Tenured Uses

P	First Nations	P	Public Recreation (non-commercial)
P	Commercial Fisheries	P	Marine Transportation

Code

✓	**Acceptable.** Applications for this use should be accepted for processing and evaluation. Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
O	**Conditionally Acceptable.** New applications for this use should be accepted for processing and evaluation only if they meet the terms of relevant Management Conditions in the Plan (subject to variation process). Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
X	**Not Acceptable.** Applications for this use should not be accepted for processing and evaluation based on known technological or environmental concerns, identified social preference or potential conflicts with existing uses and activities. .
P	The non-tenured activity is present and ongoing in the Planning Unit
A	The non-tenured activity is absent from the Planning Unit

- LWBC should not accept applications for tenure expansion or new tenures for shellfish off bottom aquaculture for a period of 3 years, consistent with the 3 year Plan review (i.e. in consultation with the Advisory Committee).

MANAGEMENT GUIDELINES:

- Applications for commercial or industrial tenures throughout the Plan Area should be referred to either directly to CWS (via Environment Canada's Environmental Assessment Section) or to DFO for subsequent referral to CWS .
- Given the particular importance of this unit for shellfish aquaculture, LWBC should only consider providing an access route from the water to the Coode Peninsula UREP at the time of tenure renewal or assignment, if:

  • the Regional District feasibility study recommended below indicates the Wilderness Area is feasible; and,

  • the PRRD or some other entity commits to managing the Wilderness Area..
- LWBC should remove the UREP designation and not provide an access route if:

  • the feasibility study indicates the Wilderness Area is not feasible; or,

  • no entity commits to managing the Wilderness Area.
- In developing and implementing a Malaspina Provincial Park Management Plan, WLAP should consider protection and maintenance of drinking water quality in Wednesday and Hinder Lakes as per the interagency protocol agreement (See Appendix 3).
- Operators seeking bird scare permits from the Canadian Wildlife Service (CWS) should demonstrate due diligence in using siting and other mitigative measures to reduce the likelihood or the effect of diving duck predation (CWS has indicated that it will not issue kill permits for aquaculture activities).
- People with complaints related to practices used by shellfish aquaculture operators should consider the dispute resolution options described in Appendix 6 (Regulation of shellfish aquaculture and dispute resolution). Appendix 6 includes a description of the Farm Industry Review Board (FIRB) formal compliant process under the Farm Practices Protection (Right to Farm) Act (FPPA).
- Shellfish aquaculture operators should make every effort to employ methods to avoid noise and visual disturbances from structures and operating equipment.
- The Council of BC Yacht Clubs is encouraged to educate its members to not anchor adjacent to or over shellfish aquaculture tenures when members boats are not equipped with sewage holding tanks.
- All entities interested in obtaining a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.
- The Vancouver Coastal Health Authority is encouraged to enforce sewage disposal regulations in the area.
- Provincial agencies and the PRRD and Sliammon (Tla'amin First Nation) should work together to identify and address unauthorized uses under the *Land Act*.
- Utility owners are encouraged to post a sign at the site of the utilities indicating location of the utilities.
- Tourism and recreation operators should educate their clients on the location of utility rights of way and advise that vessel operators should not anchor in the vicinity of those rights of way.
- Tourism and recreation operators should educate their clients regarding potential for contaminating shellfish growing areas, promote client non-access across shellfish tenures, except as a safety measure, and provide information on how to avoid sewage contamination of shellfish areas.
- Shellfish aquaculture beach and off bottom operators should avoid the use of upland vegetation (i.e. shrubs and trees) for tenure anchoring purposes. Anchoring to trees on untenured Crown land constitutes an unauthorized use of Crown land.
- Shellfish aquaculture operators with Leases should provide signage that indicates that trespassing is not allowed without permission of the operator.
- If the results of ecological studies or monitoring of predator netting effects in Baynes Sound, Barkley

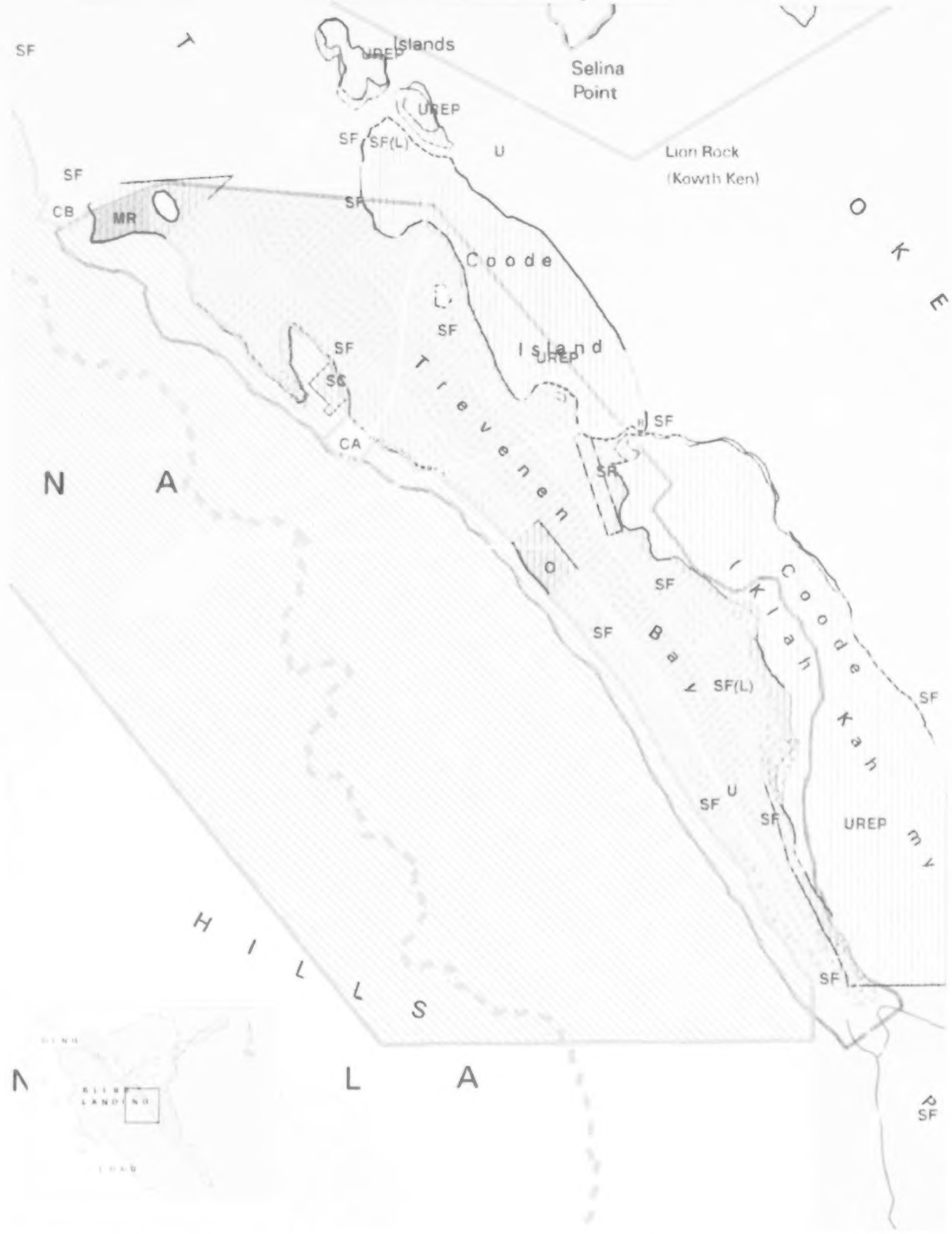
Sound and Malaspina Okeover areas demonstrate unacceptable impacts, shellfish beach aquaculture operators should undertake measures to avoid those impacts.

- Tenure holders must ensure adequate sewage disposal facilities are available nearby for staff on site.
- Tenure operators must avoid stream channeling, building berms or any other habitat alteration, without specific DFO authorization, that could result in habitat impacts and federal *Fisheries Act* violations.

FOLLOW-UP ACTION:

- Remove *Land Act* shellfish map reserve on northwestern tip of Coode Peninsula in favour of LWBC for purposes of shellfish aquaculture. Reserve overlaps existing tenure.
- Maintain *Land Act* UREP notation of interest (104 ha) on Isbister and Coode Islands (same as in Unit 2 and 4) in favour of MSRM respecting the interests of the MOF, BC Parks, and the PRRD for purposes of conservation and passive recreation, subject to the results of a study to determine the feasibility of designation of this area as a Regional District Passive Wilderness Area..
- Maintain scientific measurement/ research map reserve across from Coode Island in favour of MOF for purposes of conservation and recreation.
- Remove *Land Act* "other" map reserve in favour of MOF for institutional purposes.
- Maintain *Land Act* map reserve west of Isbister Islands on 'unnamed' Island in favour of MSRM (same as in Unit 2). Tenure holders should ensure adequate sewage disposal facilities are available nearby for staff on site.
- MSRM to provide the PRRD with a large scale Planning Unit map to assist it in determining location of tenures and other values in this unit.
- MSRM Archeology and Registries Services Branch to meet with the Sliammon to discuss enforcement options related to the Heritage Resources Act .
- MSRM to provide funding to assist the PRRD in the conduct of the feasibility study.
- MSRM to provide funding for PRRD to conduct a study to determine the feasibility of developing a Regional Board Passive Recreation Wilderness Area over the Coode and Isbister Islands UREP that includes facilities for human waste management associated with limited access. The study should include consultation with all affected groups and include provincial involvement.
- MSRM will provide LWBC and MAFF with a map of the registered archeological sites in the Plan Area as a data base for consideration during any assessments and consultations conducted during their respective tenure application reviews.

3 - Trevenen Bay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Decision Support Services / Coast & Marine Planning Branch

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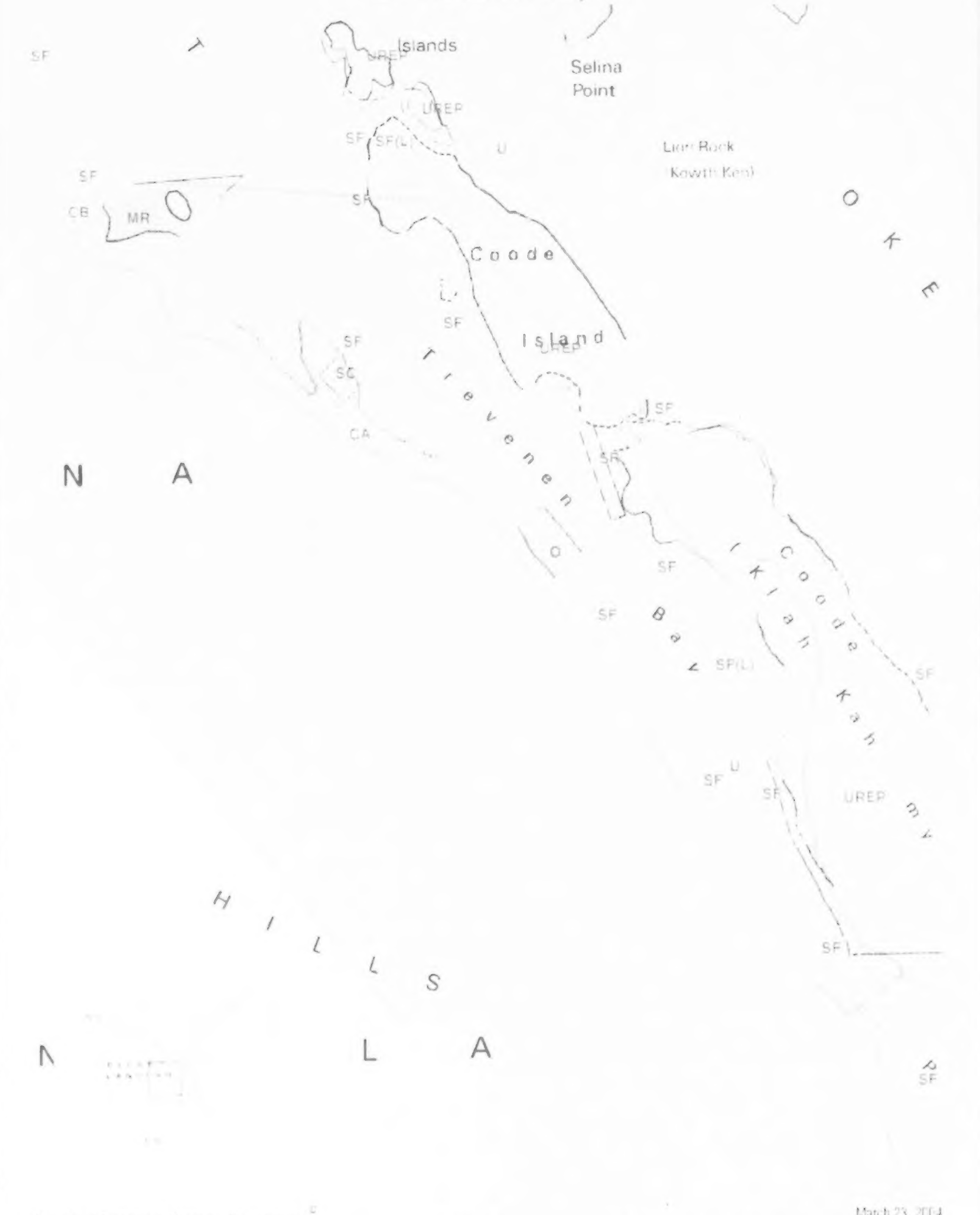
March 23, 2004

NOTE: Some data may not be accurate at the scale depicted

3 - Trevenen Bay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March 23, 2004
NOTE: Some data may not be accurate at the scale depicted

Unit 4 Okeover Inlet West

FINN
BLISS LANDING
LUND

Marine Area	4.9 sq km
Substrate	Mud
Exposure	Low
Current	Low
Roughness	Low
Shoreline	11.5 km
Slope	Flat
Depth	Shallow-Mid-depth
Benthic Summer Temp	Warm

DESCRIPTION:

The unit consists of the eastern shore of Coode and Malaspina Peninsulas, within Okeover Inlet. Northern shorelines along Coode Peninsula consist primarily of rock; and southern shorelines along Malaspina Peninsula consist primarily of sand and gravel beaches. Modified shorelines occur at the public wharf and the Sliammon (Tla'amin) First Nation shellfish processing plant. The area has moderate biological values and the highest residential and tourism value in the Plan Area due to a combination of accessible infrastructure and natural amenities. The area has moderate shellfish aquaculture development.

BIOLOGICAL ATTRIBUTES:

- CWS confirmed areas of use by migratory birds, along east side of Coode Peninsula and center of Okeover Inlet. Year round habitat for Alcids (Marbled Murrelet – COSEWIC Threatened), Cormorants, Diving Ducks, Gulls, Mergansers, Grebes, Dabbling Ducks, Shorebirds, Eagles and Loons.
- Clam beds (23.8 ha) collectively; at Freke Anchorage and beach north of public wharf.
- Eelgrass beds (4.2 ha) in Penrose Bay, off southern tip of Coode Peninsula, north of public wharf, Lucy Rock and Freke Anchorage.
- Kelp beds (14.1 ha) collectively; at Lion Rock (2.6 ha), eastern shore of Coode Island (4.4 ha) and northeastern shore of Coode Peninsula (7.1 ha).
- WLAP Terrestrial Ecosystem Mapping: Most adjacent terrestrial areas are not classified as sensitive. A few areas of mature coniferous forest exist and a small patch of mixed woodland is located at the south end of the unit (see Malaspina Okeover Coastal Plan Sensitive Ecosystem Inventory Map at: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm) .

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* Refer to Table 3 in Section 2 for specific species and Endangered and Threatened Provincial, National and Global Rankings.

FIRST NATIONS:

- Sliammon (Tla'amin):
  - Traditional Territory
  - area of archeological significance.
  - traditional cod, prawn and scallop fisheries.
  - traditional clam, sea cucumber and sea urchin harvest.
  - shellfish processing plant south of the government wharf (currently not operating but re-opening soon).
  - high traditional use area.
- Klahoose:
  - Traditional Territory

FEATURES AND ACTIVITIES:

- Campsite at Okeover Provincial Park.
- Two safe anchorages at Penrose Bay and Lucy Rock.
- Commercial dive fishery.
- Commercial clam fishery.
- High use area for recreational boaters and paddlers; important staging area at campgrounds and resorts.
- Three tourism lodges on adjacent upland.
- Okeover Provincial Park

- Malaspina Provincial Park.
- Sunshine Coast Trail.
- Adjacent upland area has the highest intensity of residential development, use and tourism infrastructure development in the Plan Area.

CAPABILITY AND TENURED USES:

- Beach aquaculture capability: seven beaches rated as Good or Medium for clams and oysters; southern tip of Coode Peninsula, Penrose Bay, 1 km south of Penrose Bay, north of public wharf, Lucy Rock and north of Freke Anchorage.
- Off Bottom Oyster aquaculture capability: rated as Good or Medium throughout.
- Off Bottom Scallop aquaculture capability: rated as Poor throughout.
- Subtidal Shellfish aquaculture: Potential areas.
- Seven shellfish aquaculture tenures: Coode Island (same as in Unit 3), Coode Peninsula, Penrose Bay and four south of public wharf; collectively occupying 23.1 ha.
- Two light docks one at Desolation Sound Resort and at the Y-Knot Campground; collectively occupying 0.6 ha.
- One heavy dock (the public wharf (0.9 ha) operated by the Okeover Harbour Authority.
- One public boat launch adjacent to public wharf.
- One private boat launch at the Y-Knot Camp ground south of the public wharf.
- One marina (0.4 ha) at Penrose Bay.
- Two submarine utility right-of-way tenures crossing Okeover Inlet: one at Larson's Landing and one north of Freke Anchorage (same as in Unit 5).
- Four Water Act licences at Penrose Bay (same as in Unit 3) and Desolation Sound Resort.
- Three *Land Act* shellfish map reserves: two north of Freke Anchorage (1.5 ha and 3.3 ha) in favour of MSRM for purposes of shellfish aquaculture (MOU sites with Sliammon (Tla'amin) First Nations); and one north of public wharf (28.2 ha) in favour of LWBC for purposes of recreational shellfish harvesting.

Use Recommendations (based on "acceptability")

Tenured Uses

O	Shellfish Beach Aquaculture	O	Public and Institutional Docks
O	Shellfish Off Bottom Aquaculture	O	Commercial and Industrial Docks
✓	Shellfish Sub tidal Aquaculture	X	Float Homes
X	Finfish Aquaculture	✓	Marine Telecommunications & Utilities
O	Boat Launches	O	Commercial Recreation Guiding
X	Log Handling, Storage and Infrastructure	✓	Private Residential Moorage
✓	Conservation	X	Floating Lodges & Camps

Non-Tenured Uses

P	First Nations	P	Public Recreation (non-commercial)
P	Commercial Fisheries	P	Marine Transportation

Code

✓	**Acceptable.** Applications for this use should be accepted for processing and evaluation. Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
O	**Conditionally Acceptable.** New applications for this use should be accepted for processing and evaluation only if they meet the terms of relevant Management Conditions in the Plan (subject to variation process). Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
X	**Not Acceptable.** Applications for this use should not be accepted for processing and evaluation based on known technological or environmental concerns, identified social preference or potential conflicts with existing uses and activities. .
P	The non-tenured activity is present and ongoing in the Planning Unit
A	The non-tenured activity is absent from the Planning Unit

- One *Land Act* UREP notation of interest (104 ha) on Isbister and Coode Islands (same as in Unit 3 and 4) in favour of MSRM respecting the interests of the MOF, BC Parks, and the PRRD for purposes of conservation and passive recreation (same as in Unit 2 and 3).

MANAGEMENT EMPHASIS:

- Recreation: This unit should be managed for multiple use while maintaining existing uses, water quality, and recreational values. The intent is to maintain the area as a key staging ground for boaters and paddlers traveling via water to adjacent parks (Desolation Sound Provincial Marine Park and Malaspina Provincial Park) while also maintaining environmental quality for recreational use and existing shellfish aquaculture operations.

MANAGEMENT CONDITIONS:

- Applications should only be accepted for renewal and assignment of existing tenures for Shellfish beach aquaculture.
- Applications for off bottom aquaculture tenure should only be accepted for:

  • renewal and assignment of existing tenures; and
  • tenure area modifications only to address safety and navigational concerns as required (e.g. to accommodate anchoring), but not to accommodate additional surface structures, such as rafts, long lines etc.
- Applications for Management Plan Amendments for existing tenures south of Penrose Bay should not be accepted if they include proposed structures or operating practices that potentially increase noise and visual disturbance beyond levels existing March 31, 2004.

  • This does not include changes of anchors, floats and markers required for navigational safety.
  • This does not include boats.
  • This applies to all existing tenured uses except for development of new shellfish aquaculture sites reserved for the Sliammon First Nation, existing or new public and institutional docks, the government wharf and the dock at the Sliammon processing facility.
- Applications should only be accepted for boat launch tenures for locations with rocky substrate, and south of the UREP on Coode Peninsula.
- Applications for Public, Private and Institutional Docks should only be accepted for locations that minimize conflict with upland property owners and would be subject to consideration of the existing DFO shellfish harvesting prohibition within 125 m of wharves used for moorage.
- Applications for commercial and industrial docks should be restricted to renewal and assignment of existing tenures:

  • This condition is in keeping with a resolution by the PRRD that a moratorium be placed on further applications for commercial dock facilities in Okeover and Theodosia Inlets until the impact of this type of facility on the Mariculture industry is ascertained. This condition is subject to review either during the normal 3 year Plan review or following the creation of an Official Community Plan for the Area.
  • If, in the future it is deemed that applications for expansion or new facilities is acceptable the applications would be subject to consideration of the existing DFO shellfish harvesting prohibition within 125 m of wharves used for moorage.
  • This condition does not apply to the Government Wharf and the dock at the Sliammon Processing facility, but any expansions would be subject to consideration of the existing DFO shellfish harvesting prohibition within 125 m of wharves used for moorage.
- Applications for commercial recreation guiding tenures should only be accepted where proponents include in their management plans:

  • operating practices that minimize negative effects of these activities on shellfish aquaculture tenures.
  • ways to promote client non-access across shellfish tenures, except as a safety measure.
  • commitment to provide clients with portable sewage containers and instructions for their use to avoid contamination of shellfish harvesting and growing areas within approved guidelines (see Appendix 3 – Protocol Agreement for Managing the Public Recreation and Water Quality in the Malaspina/Okeover Inlet Complex).

MANAGEMENT GUIDELINES:

- New tenures should minimize interference with commercial dive fishery sites and with wild commercial and recreational clam harvesting.
- Applications for commercial or industrial uses throughout the Plan Area should be referred to either directly to CWS (via Environment Canada's Environmental Assessment Section) or to DFO for subsequent referral to CWS .
- Provincial agencies, the PRRD and Sliammon (Tla'amin) First Nation should work together to identify and address unauthorized uses under the *Land Act* as well as facilities that should be tenured and are in a state of disrepair.
- Operators seeking bird scare permits from the Canadian Wildlife Service (CWS) should demonstrate due diligence in using siting and other mitigative measures to reduce the likelihood or the effect of diving duck predation (CWS has indicated that it will not issue kill permits for aquaculture activities).
- People with complaints related to practices used by shellfish aquaculture operators should consider the dispute resolution options Appendix 6 (Regulation of shellfish aquaculture and dispute resolution). Appendix 6 includes a description of the Farm Industry Review Board (FIRB) formal compliant process under the Farm Practices Protection (Right to Farm) Act (FPPA).
- The Vancouver Coastal Health Authority should enforce sewage disposal regulations on all upland properties.
- All tenure operators should make every effort to employ methods to avoid noise and visual disturbances on upland residents and recreationalists from structures and operating equipment.
- Recreation and tourism operators should encourage their clients to not use personal watercraft.
- The Sliammon (Tla'amin) First Nation and the PRRD should undertake joint upland planning initiatives to assist in the control of land-based sources of marine pollution and address whether new commercial and industrial docks should be an acceptable use for the unit.
- All entities interested in obtaining a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.
- The Council of BC Yacht Clubs is encouraged to educate its members to not anchor adjacent to or over shellfish aquaculture tenures when members boats are not equipped with sewage holding tanks.

- All entities interested in obtaining a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.

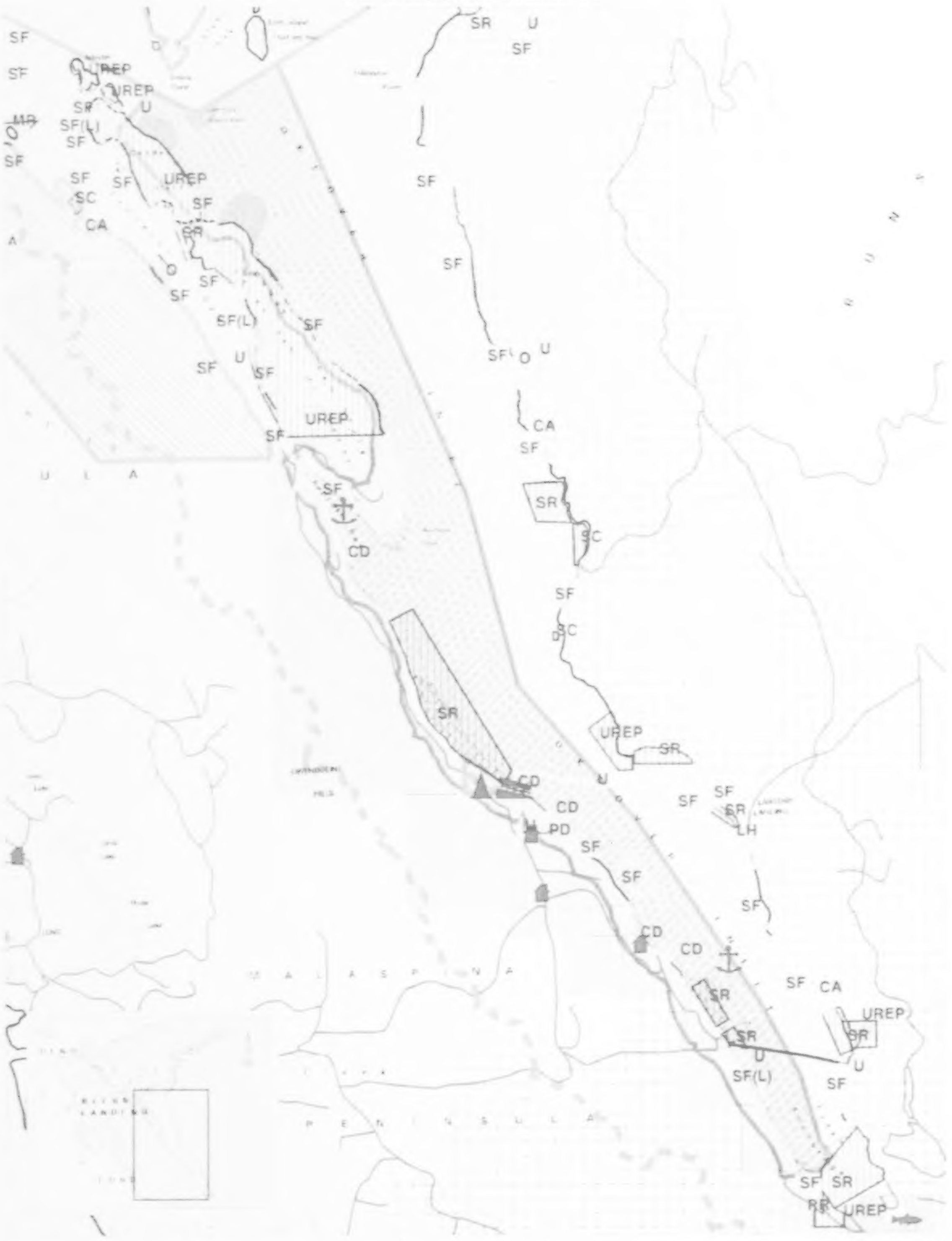
- The Vancouver Coastal Health Authority is encouraged to enforce sewage disposal regulations in the area.
- The Harbour Authority is encouraged to post a sign on the government wharf indicating the location of utilities with an advisory for vessels to avoid anchoring in the vicinity of those utilities.
- Utility owners are encouraged to post a sign at the site of the utilities indicating location of the utilities.
- Tourism and recreation operators should educate their clients on the location of utility rights of way and advise that vessel operators should not anchor in the vicinity of those rights of way.
- Tourism and recreation operators should educate their clients regarding potential for contaminating shellfish growing areas, promote client non-access across shellfish tenures, except as a safety measure, and provide information on how to avoid sewage contamination of shellfish areas.
- Given the potential for sewage contamination of marine areas from upland areas with residential development, the PRRD and Sliammon (Tla'amin) First Nation should jointly develop an Official Community Plan for the area that seeks to avoid further contamination of marine areas in the unit.
- Shellfish aquaculture beach and off bottom operators should avoid the use of upland vegetation (i.e. shrubs and trees) for tenure anchoring purposes. Anchoring to trees on untenured Crown land constitutes an unauthorized use of Crown land.

- Shellfish aquaculture operators with Leases should provide signage that indicates that trespassing is not allowed without permission of the operator.
- If the results of ecological studies or monitoring of predator netting effects in Baynes Sound, Barkley Sound and Malaspina Okeover areas demonstrate unacceptable impacts, shellfish beach aquaculture operators should undertake measures to avoid those impacts.
- Tenure holders must ensure adequate sewage disposal facilities are available nearby for staff on site.
- Tenure operators should avoid stream channeling, building berms or any other habitat alteration, without specific DFO authorization, that could result in habitat impacts and federal *Fisheries Act* violations.
- Persons interested in entering Indian Reserves should seek permission from the Sliammon (Tla'amin) First Nation.

FOLLOW-UP ACTION:

- Convert *Land Act* shellfish map reserve north of public wharf in favour of LWBC to UREP map reserve in favour of WLAP for purposes of recreational shellfish harvesting.
- Remove *Land Act* shellfish map reserve 2 km north of Freke Anchorage in favour of MSRM for purposes of shellfish aquaculture. MOU site; full disposition by Sliammon (Tla'amin) tenure.
- Maintain *Land Act* shellfish map reserve 1.5 km north of Freke Anchorage in favour of MSRM for purposes of shellfish aquaculture for the duration of the period covered by the MOU between the Province and the Sliammon (Tla'amin) First Nation.
- Maintain *Land Act* UREP notation of interest (104 ha) on Isbister and Coode Islands (same as in Unit 2 and 3) in favour of MSRM respecting the interests of the MOF, BC Parks, and the PRRD for purposes of conservation and passive recreation, subject to results of a study of the feasibility of designating this as a Regional District Passive Wilderness Area.
- MSRM to provide PRRD with funding to conduct a study to determine the feasibility of developing a Regional Board Passive Wilderness Area over the Coode UREP that includes facilities for human waste management associated with limited access. The study should include consultation with all affected groups and include Provincial involvement.
- MSRM to provide funding to assist the PRRD in the conduct of the feasibility study.
- MSRM to provide the PRRD with a large scale Planning Unit map to assist it in determining location of tenures and other values in this unit.
- MSRM Archeology and Registries Services Branch to meet with the Sliammon to discuss enforcement options related to the Heritage Resources Act.
- MSRM to provide LWBC and MAFF with a map of the registered archeological sites in the Plan Area as a data base for consideration during any assessments and consultations conducted during their respective tenure application reviews.

4 - Okeover Inlet W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Ministry of Sustainable Resource Management
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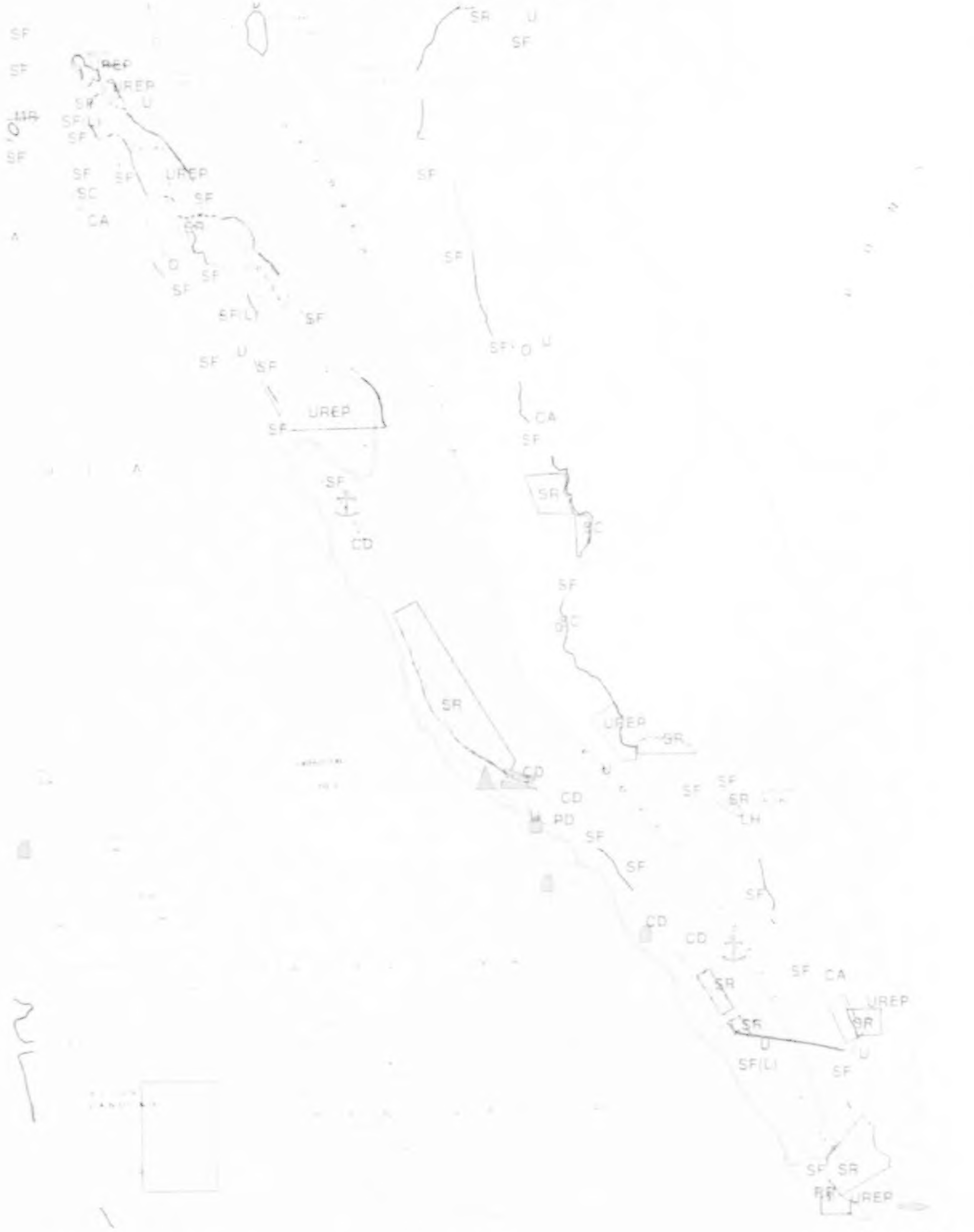
March 17, 2004
NOTE: Some data may not be accurate at the scale depicted

4 - Okeover Inlet W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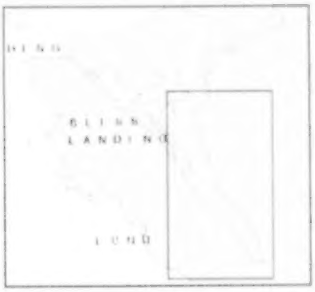
March 17, 2004

NOTE: Some data may not be accurate at the scale depicted

Unit 5 Okeover Inlet East



Marine Area	5.1 sq km
Substrate	Mud
Exposure	Low
Current	Low
Roughness	Low
Shoreline	12 km
Slope	Flat
Depth	Shallow-Mid-depth
Benthic Summer Temp	Warm

DESCRIPTION:

The east side of Okeover Inlet abuts the Coast Range physiographic region. The unit shoreline consists of a mixture of sediment, rock cliffs and ramps, and a mixed combination of rock ramps with discontinuous boulder-cobble veneer. There is a large sand and gravel delta with a wetland at the head of the Inlet called Freke Anchorage. This unit has high biological, First Nations, commercial (especially aquaculture) and recreational values.

ATTRIBUTES:

- CWS confirmed areas of use by migratory birds: centre and southeast portion of Okeover Inlet. Year round habitat for Alcids (Marbled Murrelet – COSEWIC Threatened), Diving Ducks, Grebes, Dabbling Ducks and Loons.
- Clam beds (22.9 ha) at Freke Anchorage.
- Eelgrass beds (1.1 ha) at Freke Anchorage and south of Hillingdon Point.
- One herring spawn (0.7 km in length) north of Larson's Landing.
- Anadromous fish streams: 1 at the stream draining into Freke anchorage (local knowledge)
- Rare and Endangered Species: Red Algae (Rhodophyta spp.; 109.2 ha) in Okeover Inlet East.
- WLAP Terrestrial Ecosystem Mapping: The north coastal fringe of the unit is old growth coniferous forest with some coniferous woodland, drained by a watershed shared with unit # 6, and contains more mature coniferous forest and coniferous woodland than the southern coastal fringe. Five watersheds with streams and associated riparian fringes, including Freke Anchorage, drain the unit (see Malaspina Okeover Coastal Plan Sensitive Ecosystem Inventory Map at: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm.).

FIRST NATIONS:

- Sliammon (Tla'amin) First Nation:
  - Traditional Territory
  - large area included in Sliammon Treaty Settlement Lands as the Sliammon Agreement in Principle (2003).
  - Tohk natch Indian Reserve at Freke Anchorage.
  - area of archeological significance.
  - traditional cod, prawn and scallop fisheries.
  - traditional clam, sea cucumber and sea urchin harvest.
  - high traditional use area.
- Klahoose:
  - Traditional Territory

FEATURES AND ACTIVITIES:

- Wild clam beach at Freke Anchorage and several small "pocket" wild clam beaches in other parts of the unit.
- High use area for recreational boaters and paddlers.
- Okeover sea caves have high recreational diving values.
- Rock paintings on cliffs on the east side of the unit have high recreational viewing value.

* Refer to Table 3 in Section 2 for specific species and Endangered and Threatened Provincial, National and Global Rankings.

CAPABILITY AND TENURED USES:

- Beach aquaculture capability: six beaches rated as Good or Medium for clams and oysters; Hillingdon Point, north of and including Larson's Landing, across from Lucy Rock and north of Freke Anchorage.
- Off Bottom Oyster capability: rated as Good or Medium throughout.
- Off Bottom Scallop capability: rated as Poor throughout.
- Subtidal Shellfish aquaculture: No identified potential areas.
- Thirteen shellfish aquaculture tenures along the eastern shore of Okeover Inlet; collectively occupying 65.9 ha.
- One log storage and handling tenure (3 ha) south of Larson's Landing.
- One commercial 'A' (year round) tenure (0.1 ha) north of Freke Anchorage.
- One "other" commercial tenure (0.1 ha) south of Hillingdon Point.
- One rural recreational/ residential tenure at Freke Anchorage.
- Two submarine utility right-of-way tenures crossing Okeover Inlet: one at Larson's Landing and one north of Freke Anchorage (same as in Unit 4).
- Five *Land Act* shellfish map reserves: Freke Anchorage (13.8 ha) and 2 km north (12.4 ha), 1 km north of Larson's Landing (12 ha) and 3 km south of Hillingdon Point, in favour of MSRM (MOU sites; Sliammon (Tla'amin) First Nation); and one south of Larson's Landing (2 ha) in favour of LWBC; all for purposes of shellfish aquaculture.
- Three *Land Act* UREPs: two UREP map reserves at Freke Anchorage (3 ha) and 1 km north of Larson's Landing (5 ha); and one UREP notation of interest (1 ha) 1 km north of Freke Anchorage in favour of LWBC for purposes of conservation and recreation.
- Two *Land Act* scientific measurement/ research map reserves: 1.5 km north of Larson's Landing (0.2 ha) in favour of Public Works Canada for purposes of conservation; and 2 km north of Larson's Landing (1 ha) in favour of MOF for purposes of conservation and recreation.

Use Recommendations (based on "acceptability")

Tenured Uses

✓	Shellfish Beach Aquaculture	✓	Public and Institutional Docks
✓	Shellfish Off Bottom Aquaculture	O	Commercial and Industrial Docks
✓	Shellfish Sub tidal Aquaculture	X	Float Homes
X	Finfish Aquaculture	✓	Marine Telecommunications & Utilities
O	Boat Launches	O	Commercial Recreation Guiding
O	Log Handling, Storage and Infrastructure	O	Private Residential Moorage
✓	Conservation	O	Floating Lodges & Camps

Non-Tenured Uses

P	First Nations	P	Public Recreation (non-commercial)
P	Commercial Fisheries	P	Marine Transportation

Code

✓	**Acceptable.** Applications for this use should be accepted for processing and evaluation. Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
O	**Conditionally Acceptable.** New applications for this use should be accepted for processing and evaluation only if they meet the terms of relevant Management Conditions in the Plan (subject to variation process). Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
X	**Not Acceptable.** Applications for this use should not be accepted for processing and evaluation based on known technological or environmental concerns, identified social preference or potential conflicts with existing uses and activities. .
P	The non-tenured activity is present and ongoing in the Planning Unit
A	The non-tenured activity is absent from the Planning Unit

MANAGEMENT EMPHASIS:

- General Marine: This unit should be managed for multiple use. The intent is to provide opportunities for shellfish aquaculture and recreation development while maintaining water quality and ensuring that Sliammon (Tla'amin) First Nation interests are taken into account in context with treaty settlement lands.

Management Conditions:

- Applications for boat launches should only be accepted for locations with rocky substrate.
- Applications for log storage and handling uses are restricted to assignment and expansion of existing tenures.
- Applications for commercial recreation guiding tenures should only be accepted where proponents include in their management plans:

  • operating practices that minimize negative physical effects of these activities on shellfish aquaculture tenures
  • ways to promote client non-access across shellfish tenures, except as a safety measure.
  • commitment to provide clients with portable sewage containers and instructions for their use to avoid contamination of shellfish harvesting and growing areas within approved guidelines (see Appendix 3 – Protocol Agreement for Managing the Public Recreation and Water Quality in the Malaspina/Okeover Inlet Complex).

- Application for floating lodges and camp tenures should only be accepted if the management plans include on-board sewage disposal systems.
- Applications for private residential moorage tenure should not be accepted for the estuary at the south end of the unit.
- Applications for commercial and industrial docks should not be accepted:

  • This condition is in keeping with a resolution by the PRRD that a moratorium be placed on further applications for commercial dock facilities in Okeover and Theodosia Inlets until the impact of this type of facility on the mariculture industry is ascertained. This condition is subject to review either during the normal 3 year Plan review or following the creation of an Official Community Plan for the Area.

  • If, in the future it is deemed that applications for expansion or new facilities is acceptable the applications would be subject to consideration of the existing DFO shellfish harvesting prohibition within 125 m of wharves used for moorage.

MANAGEMENT GUIDELINES:

- New tenures should minimize interference with wild commercial and recreational clam harvesting.
- In considering applications for tenure for various uses, LWBC should account for the need to maintain some areas in this unit for safe access to beaches by paddlers.
- When issuing tenures or renewing existing tenures LWBC should maintain access corridors from the water to UREPs at Freke Harbour (#0203111) and on the east side of Okeover Inlet (# 0292739 and # 2400456).
- Applications for commercial or industrial uses throughout the Plan Area should be referred to either directly to CWS (via Environment Canada's Environmental Assessment Section) or to DFO for subsequent referral to CWS .
- Provincial agencies, the PRRD and Sliammon (Tla'amin) First Nation should work together to identify and address unauthorized uses under the *Land Act*, including float homes.
- Operators seeking bird scare permits from the Canadian Wildlife Service (CWS) should demonstrate due diligence in using siting and other mitigative measures to reduce the likelihood or the effect of diving duck predation (CWS has indicated that it will not issue kill permits for aquaculture activities).
- People with complaints related to practices used by shellfish aquaculture operators should consider the dispute resolution options described in Appendix 6 (Regulation of shellfish aquaculture and dispute resolution). Appendix 6 includes a description of the Farm Industry Review Board (FIRB) formal compliant process under the Farm Practices Protection (Right to Farm) Act (FPPA).
- Recognizing the recently signed Agreement in Principle regarding Treaty Settlement Lands, proponents are encouraged to seek support for tenure applications adjacent to those lands from the Sliammon (Tla'amin) First Nation. Where

proponents have received support, they should obtain written confirmation of that support from the Sliammon (Tla'amin) First Nation for inclusion with their applications.

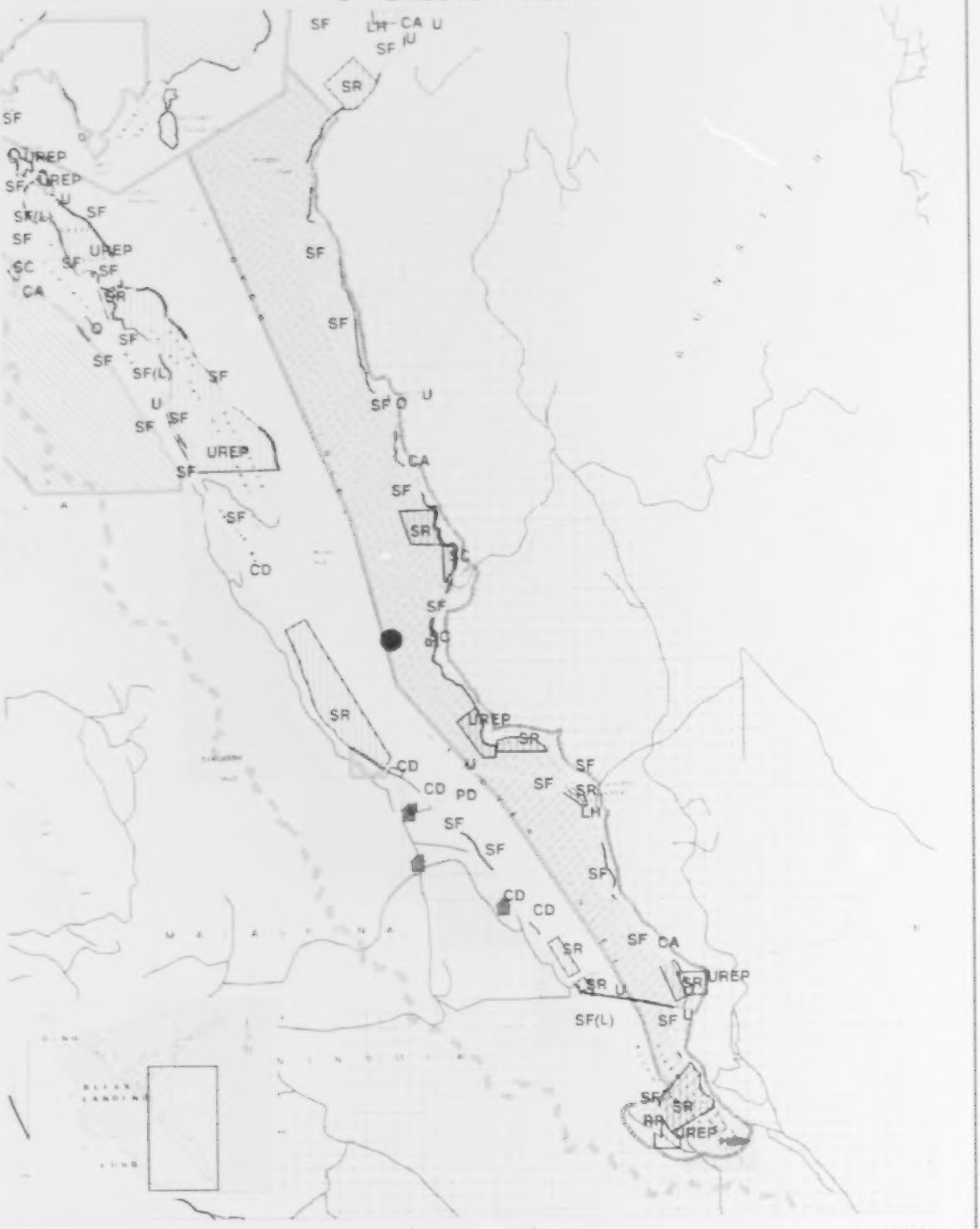
- Recreation and tourism operators should encourage their clients to not use personal watercraft.
- The Sliammon (Tla'amin) First Nation and the PRRD should undertake joint upland planning initiatives to assist in the control of land-based sources of marine pollution and address whether new commercial and industrial docks should be an acceptable use for the unit.
- All tenure operators should make every effort to employ methods to avoid noise and visual disturbances from structures and operating equipment.
- The Council of BC Yacht Clubs is encouraged to educate its members to not anchor adjacent to or over shellfish aquaculture tenures when members boats are not equipped with sewage holding tanks.
- All entities interested in obtaining a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.
- Tenure operators should make every effort to employ methods to avoid noise and visual disturbances on upland residents and recreationalists from structures and operating equipment.
- Utility owners are encouraged to post a sign at the site of the utilities indicating location of the utilities.
- Tourism and recreation operators should educate their clients on the location of utility rights of way and advise that vessel operators should not anchor in the vicinity of those rights of way.
- Given the potential for sewage contamination of marine areas from upland areas with residential development, the PRRD and Sliammon (Tla'amin) First Nation should jointly develop an Official Community Plan for the area that seeks to avoid further contamination of marine areas in the unit.
- Shellfish aquaculture beach and off bottom operators should avoid the use of upland vegetation (i.e. shrubs and trees) for tenure anchoring purposes. Anchoring to trees on untenured Crown land constitutes an unauthorized use of Crown land.
- The Vancouver Coastal Health Authority is encouraged to enforce sewage disposal regulations in the area.
- Shellfish aquaculture operators with Leases should provide signage that indicates that trespassing is not allowed without permission of the operator.
- If the results of ecological studies or monitoring of predator netting effects in Baynes Sound, Barkley Sound and Malaspina Okeover areas demonstrate unacceptable impacts, shellfish beach aquaculture operators should undertake measures to avoid those impacts.
- Tenure holders must ensure adequate sewage disposal facilities are available nearby for staff on site.
- Tenure operators should avoid stream channeling, building berms or any other habitat alteration, without specific DFO authorization, that could result in habitat impacts and federal *Fisheries Act* violations.
- Persons interested in entering Indian Reserves should seek permission from the Sliammon (Tla'amin) First Nation.

FOLLOW-UP ACTION:

- Create a *Land Act* Notation of Interest (NOI) in favour of WLAP over the estuary at Freke Anchorage in the areas not covered by the shellfish reserve, shellfish aquaculture tenure or the UREP, and consider the NOI areas and the UREP, including Okeover (Tohk natch) Creek for a marine conservation assessment to determine if they should be designated as a marine conservation area.
- Remove *Land Act* shellfish map reserve at Freke Anchorage in favour of MSRM for purposes of shellfish aquaculture. MOU site; full disposition by Sliammon (Tla'amin) tenure.
- Maintain shellfish map reserve at Larson's Landing in favour of MSRM for purposes of shellfish aquaculture. MOU site; partial disposition by Sliammon (Tla'amin) tenure.

- Maintain two *Land Act* shellfish map reserves 1km and 3 km north of Larson's Landing in favour of MSRM for the duration of the period covered by the MOU between the Province and the Sliammon (Tla'amin) First Nation.
- Maintain *Land Act* shellfish map reserve at Larson's Landing in favour of LWBC for purposes of shellfish aquaculture.
- Maintain three *Land Act* UREPs: two UREP map reserves at Freke Anchorage and 1 km north of Larson's Landing; and UREP notation of interest 1 km north of Freke Anchorage in favour of LWBC for purposes of conservation and recreation.
- Maintain two *Land Act* scientific measurement/ research map reserves: 1.5 km north of Larson's Landing in favour of Public Works Canada for purposes of conservation; and 2 km north of Larson's Landing in favour of MOF for purposes of conservation and recreation.
- MSRM to provide the PRRD with a large scale Planning Unit map to assist it in determining location of tenures and other values in this unit.
- MSRM Archeology and Registries Services Branch to meet with the Sliammon to discuss enforcement options related to the Heritage Resources Act.
- MSRM to provide LWBC and MAFF with a map of the registered archeological sites in the Plan Area as a data base for consideration during any assessments and consultations conducted during their respective tenure application reviews.

5 - Okeover Inlet E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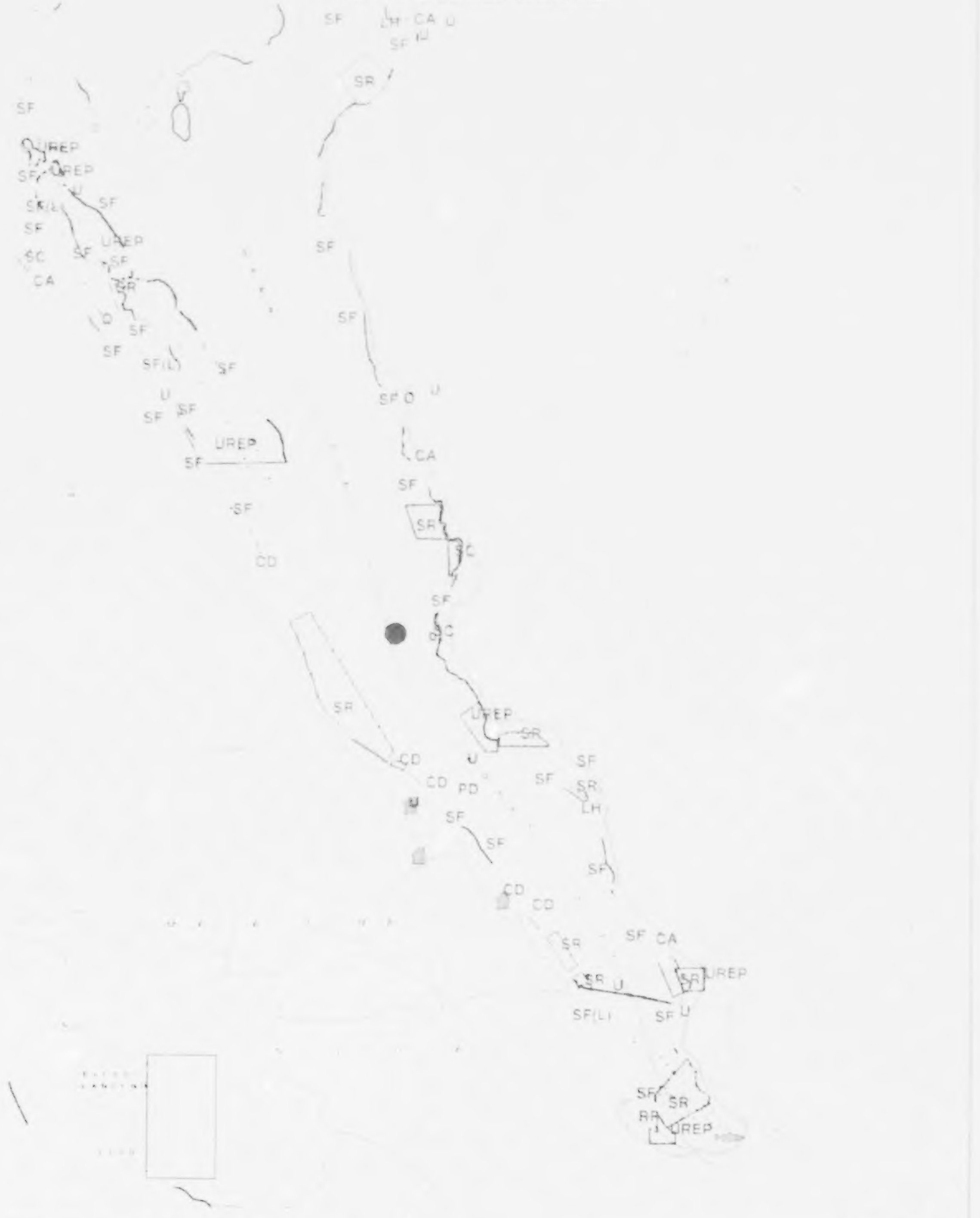
March 17, 2004

NOTE Some data may not be accurate at the scale depicted

5 - Okeover Inlet E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March 17, 2004

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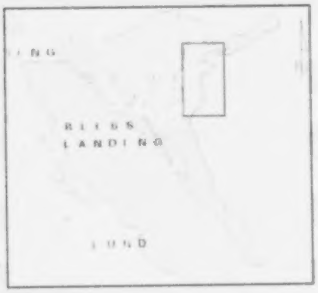
Unit 6 Lancelot Inlet



Marine Area	2.8 sq km
Substrate	Mud
Exposure	Low
Current	Low
Roughness	Low
Shoreline	6.6 km
Slope	Flat
Depth	Shallow-Mid-depth
Benthic Summer Temp	Warm

DESCRIPTION:

The Planning Unit is situated east of Gifford Peninsula and west of Theodosia Inlet. The shoreline alternates between rock cliffs and sand flats or sandy/gravel beaches. Like the eastern portion of Okeover Inlet, the backshore relief is very steep. The unit has moderate biological and high First Nations, commercial and recreational values.

BIOLOGICAL ATTRIBUTES:

- CWS confirmed areas of use by migratory birds: throughout Lancelot Inlet. Year round habitat for Alcids (Marbled Murrelet – COSEWIC Threatened), Cormorants, Diving Ducks, Gulls, Mergansers, Grebes, Dabbling Ducks, Shorebirds, Geese, Loons and Swans.
- Eelgrass beds (0.3 ha) west of Galahad Point.
- Kelp beds (0.2 ha) off Galahad Point.
- WLAP Terrestrial Ecosystem Mapping: Most of the coastal fringe contains mature coniferous forest with a small northern shoreline patch of coniferous woodland. One watershed, shared with unit 5, includes a small shoreline riparian fringe (see Malaspina Okeover Coastal Plan Sensitive Ecosystem Inventory Map at: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm)

• Refer to Table 3 in Section 2 for specific species and Endangered and Threatened Provincial, National and Global Rankings.

FIRST NATIONS:

- Sliammon (Tla'amin):
  - Traditional Territory.
  - a portion of the upland within this Planning Unit is included in Sliammon Treaty Settlement Lands as the Sliammon Agreement in Principle (2003).
  - area of archeological significance.
  - traditional cod, prawn and scallop fisheries.
  - traditional clam, sea cucumber and sea urchin harvest.
  - high traditional use area.
- Klahoose:
  - Traditional Territory.

FEATURES AND ACTIVITIES:

- High use area for recreational boaters and paddlers.
- One safe anchorage at Thors Cove.
- Commercial dive fishery.
- Unit is adjacent to Desolation Sound Provincial Marine Park.

CAPABILITY AND TENURED USES:

- Beach aquaculture capability: six beaches rated as Good or Medium for clams and oysters; Galahad Point, Thors Cove, north and south of Bunster Point.
- Off Bottom Oyster aquaculture capability: rated as Good or Medium throughout.
- Off Bottom Scallop aquaculture capability: rated as Poor throughout.

- Subtidal Shellfish aquaculture: Potential areas.
- Seven shellfish aquaculture tenures at Galahad Point, Bastion Point, Thors Cove, south of and including Bunster Point; collectively occupying 24.1 ha.
- Three commercial 'A' (year round) tenures at Thors Cove (0.9 ha), Bunster Point (0.3 ha) and south of Bunster Point (1 ha).
- One log storage and handling notation of interest (2.5 ha) south of Bunster Point. NOI overlaps shellfish aquaculture tenure as agreed upon by MOF and tenure licensee.
- Six Water Act freshwater tenures: four south of Bunster Point and two at Thors Cove.
- Two *Land Act* shellfish map reserves: Thors Cove (2.6 ha) and south of Bunster Point (12.3 ha) in favour of MSRM for purposes of shellfish aquaculture (MOU sites; Sliammon (Tla'amin) First Nation).
- Two *Land Act* UREP map reserves at Gallahad Point (1 ha and 1.3 ha) in favour of LWBC for purposes of conservation and recreation.

MANAGEMENT EMPHASIS:

- General Marine: This unit should be managed for multiple use. The intent is to provide some opportunities for shellfish aquaculture and tourism development while maintaining water quality and to account for Sliammon (Tla'amin) First Nation interests in context with treaty settlement lands.

MANAGEMENT CONDITIONS:

- Applications for boat launches should only be accepted for locations with rocky substrate.
- Applications for log storage and handling uses are restricted to the current location of the MOF map reserve and must not extend beyond the boundaries of the existing reserve.
- Applications for commercial recreation guiding tenures should only be accepted where proponents include in their management plans:
  - operating practices that minimize negative physical effects of these activities on shellfish aquaculture tenures

Use Recommendations (based on "acceptability")

Tenured Uses

✓	Shellfish Beach Aquaculture	✓	Public and Institutional Docks
✓	Shellfish Off Bottom Aquaculture	X	Commercial and Industrial Docks
✓	Shellfish Sub tidal Aquaculture	X	Float Homes
X	Finfish Aquaculture	✓	Marine Telecommunications & Utilities
O	Boat Launches	O	Commercial Recreation Guiding
O	Log Handling, Storage and Infrastructure	✓	Private Residential Moorage
✓	Conservation	X	Floating Lodges & Camps

Non-Tenured Uses

P	First Nations	P	Public Recreation (non-commercial)
P	Commercial Fisheries	P	Marine Transportation

Code

✓	**Acceptable.** Applications for this use should be accepted for processing and evaluation. Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
O	**Conditionally Acceptable.** New applications for this use should be accepted for processing and evaluation only if they meet the terms of relevant Management Conditions in the Plan (subject to variation process). Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
X	**Not Acceptable.** Applications for this use should not be accepted for processing and evaluation based on known technological or environmental concerns, identified social preference or potential conflicts with existing uses and activities. .
P	The non-tenured activity is present and ongoing in the Planning Unit
A	The non-tenured activity is absent from the Planning Unit

- ways to promote client non-access across shellfish tenures, except as a safety measure.
- commitment to provide clients with portable sewage containers and instructions for their use to avoid contamination of shellfish harvesting and growing areas within approved guidelines (see Appendix 3 – Protocol Agreement for Managing the Public Recreation and Water Quality in the Malaspina/Okeover Inlet Complex).

MANAGEMENT GUIDELINES:

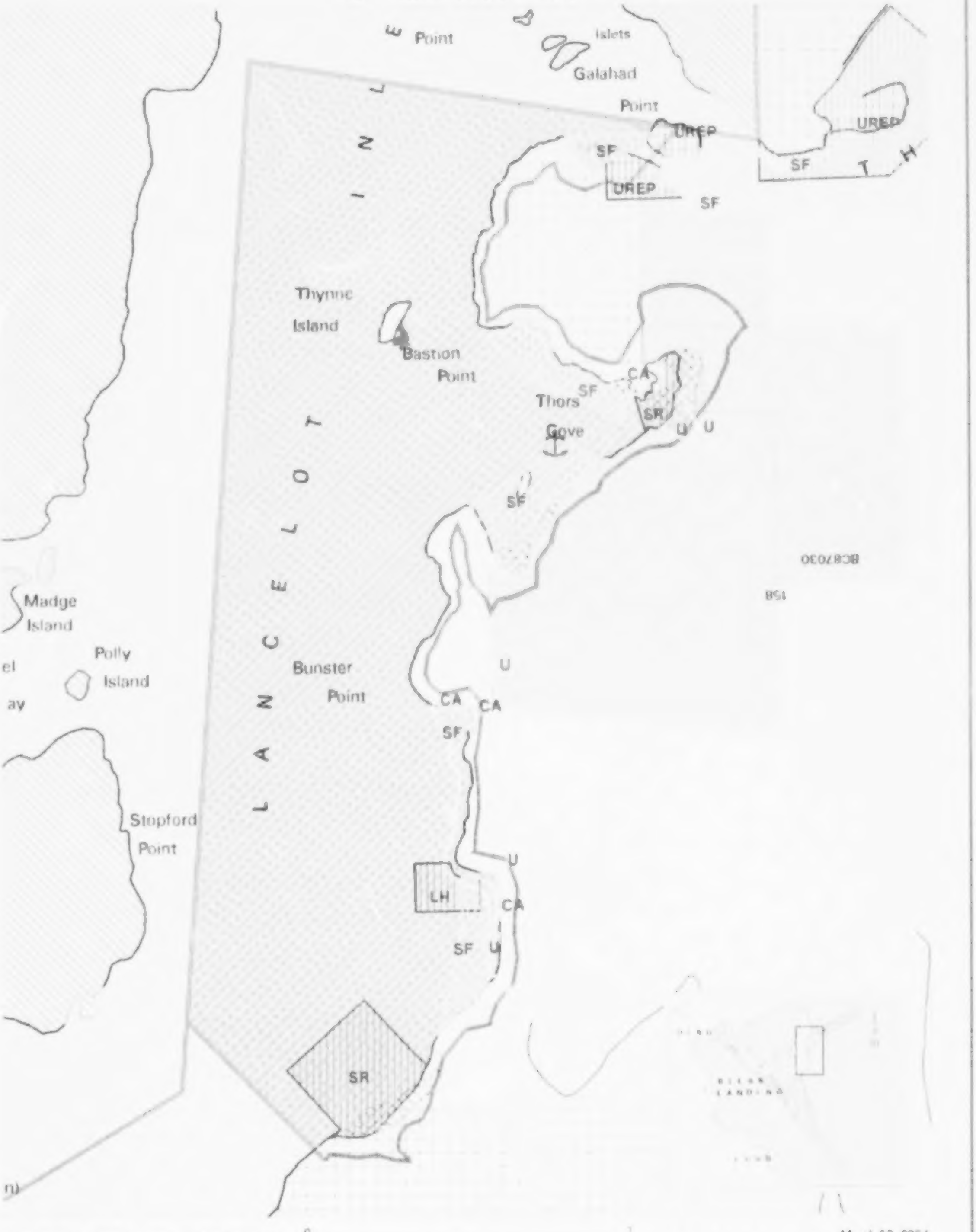
- New tenures should minimize interference with commercial dive fishery sites.
- In considering applications for tenure for various uses, LWBC should account for the need to maintain some areas in this unit for safe access to beaches by paddlers.
- When issuing tenures or renewing existing tenures in the vicinity of UREP #0203109 and #0203228 at Galahad Point, LWBC should consider if there is a need to provide additional access from the water to these UREPs beyond that which currently exists at low tides.
- Applications for commercial or industrial uses throughout the Plan Area should be referred to either directly to CWS (via Environment Canada's Environmental Assessment Section) or to DFO for subsequent referral to CWS .
- Provincial agencies and the PRRD and Sliammon (Tla'amin First Nation) should work together to identify and address unauthorized uses under the *Land Act*, including float homes.
- Operators seeking bird scare permits from the Canadian Wildlife Service (CWS) should demonstrate due diligence in using siting and other mitigative measures to reduce the likelihood or the effect of diving duck predation (CWS has indicated that it will not issue kill permits for aquaculture activities).
- The Vancouver Coastal Health Authority is encouraged to enforce sewage disposal regulations in the area.
- People with complaints related to practices used by shellfish aquaculture operators should consider the dispute resolution options described in Appendix 6 (Regulation of shellfish aquaculture and dispute resolution). Appendix 6 includes a description of the Farm Industry Review Board (FIRB) formal compliant process under the Farm Practices Protection (Right to Farm) Act (FPPA).
- Recognizing the recently signed Agreement in Principle regarding Treaty Settlement Lands, proponents are encouraged to seek support for tenure applications adjacent to those lands from the Sliammon (Tla'amin) First Nation. Where proponents have received support, they should obtain written confirmation of that support from the Sliammon (Tla'amin) First Nation for inclusion with their applications.
- Recreation and tourism operators should encourage their clients to not use personal watercraft.
- All tenure operators should make every effort to employ methods to avoid noise and visual disturbances from structures and operating equipment.
- The Council of BC Yacht Clubs is encouraged to educate its members to not anchor adjacent to or over shellfish aquaculture tenures when members boats are not equipped with sewage holding tanks.
- All entities interested in obtaining a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.
- Utility owners are encouraged to post a sign at the site of the utilities indicating location of the utilities.
- Tourism and recreation operators should educate their clients on the location of utility rights of way and advise that vessel operators should not anchor in the vicinity of those rights of way.
- Given the potential for sewage contamination of marine areas from upland areas with residential development, the PRRD and Sliammon (Tla'amin) First Nation should jointly develop an Official Community Plan for the area that seeks to avoid further contamination of marine areas in the unit.
- Shellfish aquaculture beach and off bottom operators should avoid the use of upland vegetation (i.e. shrubs and trees) for tenure anchoring purposes. Anchoring to trees on untenured Crown land constitutes an unauthorized use of Crown land.

- Shellfish aquaculture operators with Leases should provide signage that indicates that trespassing is not allowed without permission of the operator.
- If the results of ecological studies or monitoring of predator netting effects in Baynes Sound, Barkley Sound and Malaspina Okeover areas demonstrate unacceptable impacts, shellfish beach aquaculture operators should undertake measures to avoid those impacts.
- Tenure holders must ensure adequate sewage disposal facilities are available nearby for staff on site.
- Tenure operators should avoid stream channeling, building berms or any other habitat alteration, without specific DFO authorization, that could result in habitat impacts and federal *Fisheries Act* violations.
- Persons interested in entering Indian Reserves should seek permission from the Sliammon (Tla'amin) First Nation.

FOLLOW-UP ACTION:

- Remove *Land Act* shellfish map reserve at Thors Cove in favour of MSRM for purposes of shellfish aquaculture. MOU site; full disposition by Sliammon (Tla'amin) tenure.
- Maintain *Land Act* shellfish map reserve south of Bunster Point in favour of MSRM for purposes of shellfish aquaculture for the duration of the period covered by the MOU between the Province and the Sliammon (Tla'amin) First Nation. MOU site; partial disposition by Sliammon (Tla'amin) tenure.
- Maintain two *Land Act* UREP map reserves at Gallahad Point in favour of LWBC for purposes of conservation and recreation.
- Maintain *Land Act* log storage and handling notation of interest south of Bunster Point in favour of MOF for purposes of resource inventory.
- MSRM to provide the PRRD with a large scale Planning Unit map to assist it in determining location of tenures and other values in this unit.
- MSRM Archeology and Registries Services Branch to meet with the Sliammon to discuss enforcement options related to the Heritage Resources Act.
- MSRM to provide LWBC and MAFF with a map of the registered archeological sites in the Plan Area as a data base for consideration during any assessments and consultations conducted during their respective tenure application reviews.
- Agencies will use current Provincial and agency policy for consultation with First Nations when reviewing tenure applications.

6 - Lancelot Inlet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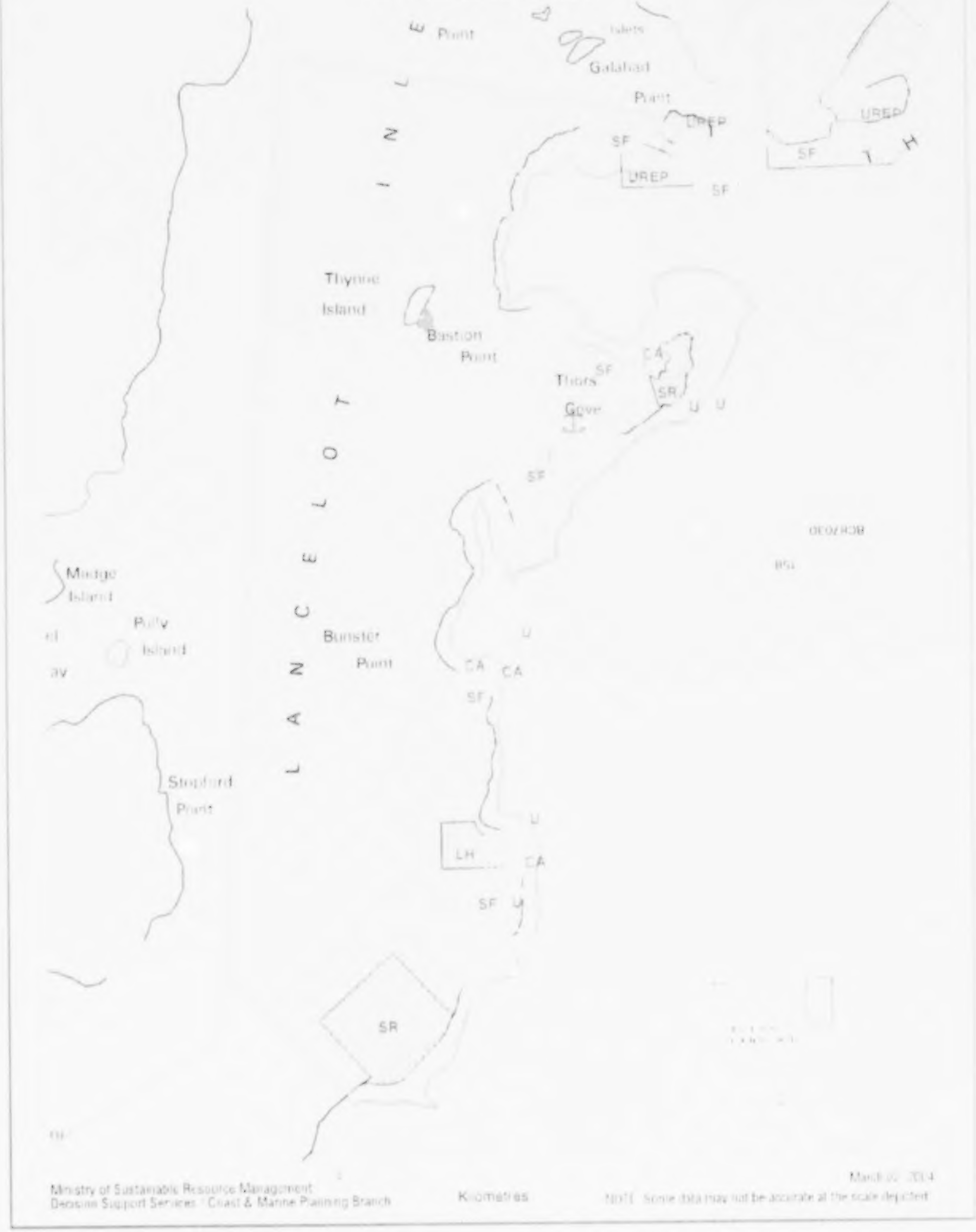
NOTE: Some data may not be accurate at the scale depicted

6 - Lancelot Inlet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March 02, 2004

NOTE: Some data may not be accurate at the scale depicted.

Unit 7 Theodosia Inlet

BLISS LANDING
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Marine Area	2.0 sq km
Substrate	Mud
Exposure	Low
Current	Low
Roughness	Low
Shoreline	12.5 km
Slope	Flat
Depth	Shallow-Photic
Benthic Summer Temp	Warm

DESCRIPTION:

Theodosia Inlet is the most easterly Planning Unit within the Plan Area and is relatively isolated due to a narrow and shallow channel at the mouth of the Inlet. A mud-sand-gravel tidal flat and estuary occurs where the Theodosia River drains into the head of the Inlet. The unit has high biological and moderate recreational and commercial values, the latter including log handling and shellfish aquaculture.

BIOLOGICAL ATTRIBUTES:

- CWS confirmed areas of use by migratory birds: throughout Theodosia Inlet. Year round habitat for Alcids (Marbled Murrelet – COSEWIC Threatened), Cormorants, Diving Ducks, Gulls, Mergansers, Grebes, Dabbling Ducks, Shorebirds, Geese, Loons and Swans.
- Clam beds (27.9 ha) within the estuary and along the southern shore near the entrance to Theodosia Inlet.
- Estuary: eastern half of Inlet.
- Kelp beds (8.4 ha) at mouth of Theodosia Inlet.
- Anadromous fish streams: Theodosia and Farm Rivers.
- WLAP Terrestrial Ecosystem Mapping: About half of the land on the south side includes sensitive mature coniferous forest with 5 riparian fringe areas. Estuary and marsh predominate at the head of the inlet including large upstream and beach riparian areas. The north side includes mature conifer forest and coniferous woodland with four riparian areas. (see Malaspina Okeover Coastal Plan Sensitive Ecosystem Inventory Map at: http://srmwww.gov.bc.ca/rmd/coastal/north_island/malaspina/index.htm)

* Refer to Table 3 in Section 2 for specific species and Endangered and Threatened Provincial, National and Global Rankings.

FIRST NATIONS:

- Sliammon (Tla'amin):
    - Traditional Territory
    - a portion of the upland within this Planning Unit is included in Treaty Settlement Lands as indicated in the Sliammon Agreement in Principle (2003).
    - Toquana Indian Reserve at mouth of Theodosia River.
    - area of archeological significance.
    - traditional clam and oyster harvest.
    - high traditional use area.
    - salmonid enhancement project in Theodosia River.
- Klahoose:
    - Traditional Territory

FEATURES AND ACTIVITIES:

- Wild oyster harvest along northern and southern shores of inlet.
- Wild clam harvest at the head of the inlet and along the northern and southern shores.
- One safe anchorage in northern half of Inlet.
- Commercial dive fishery.
- Unit is immediately east of Desolation Sound Provincial Marine Park.
- Spawning salmon populations in the Theodosia and Farm Rivers.

CAPABILITY AND TENURED USES:

- Beach aquaculture capability: five beaches rated as Good or Medium for clams and oysters; entire eastern portion of inlet and five beaches on western side of Inlet.
- Off Bottom Oyster aquaculture capability: rated as Good or Medium in western half of Inlet.
- Off Bottom Scallop aquaculture capability: rated as Good or Medium in western half of Inlet.
- Subtidal Shellfish aquaculture: Potential areas.
- Two shellfish aquaculture tenures: on north and south side at the mouth, and in eastern half of Inlet; collectively occupying 20.49 ha.
- Two log storage and handling tenures on south side of inlet; collectively occupying ha.
- Light industrial tenure (5.1 ha) on south side of Inlet.
- Two *Land Act* shellfish map reserves (4.29 ha and 11.61 ha) on eastern side of Theodosia Inlet in favour of MSRM for purposes of shellfish aquaculture (MOU sites; Sliammon (Tla'amin) First Nation).
- One *Land Act* UREP map reserve (20.1 ha) at mouth of Inlet in favour of WLAP for conservation and recreation purposes.

MANAGEMENT EMPHASIS:

- General Marine: This unit should be managed for multiple use. Cautionary measures should be taken to protect the estuarine environment within the eastern half of Theodosia Inlet. The intent is to manage for multiple use while maintaining water quality and biological values within the unit.

MANAGEMENT CONDITIONS:

- Applications should be accepted only for renewal and assignment of existing tenures for shellfish beach aquaculture
- Applications for finfish aquaculture are limited to one non-commercial operation for salmonid conservation enhancement purposes in favour of Sliammon (Tla'amin) First Nation. If a farm is approved in an area of safe anchorage, the fish farm operators should provide for continued safe anchorage.

Use Recommendations (based on "acceptability")

Tenured Uses

O	Shellfish Beach Aquaculture	✓	Public and Institutional Docks
✓	Shellfish Off Bottom Aquaculture	O	Commercial and Industrial Docks
✓	Shellfish Sub tidal Aquaculture	X	Float Homes
O	Finfish Aquaculture	✓	Marine Telecommunications & Utilities
X	Boat Launches	O	Commercial Recreation Guiding
O	Log Handling, Storage and Infrastructure	X	Private Residential Moorage
✓	Conservation	X	Floating Lodges & Camps

Non-Tenured Uses

P	First Nations	P	Public Recreation (non-commercial)
P	Commercial Fisheries	P	Marine Transportation

Code

✓	**Acceptable.** Applications for this use should be accepted for processing and evaluation. Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
O	**Conditionally Acceptable.** New applications for this use should be accepted for processing and evaluation only if they meet the terms of relevant Management Conditions in the Plan (subject to variation process). Acceptance of an application does not guarantee that a tenure will be approved by LWBC or meet local and federal government requirements.
X	**Not Acceptable.** Applications for this use should not be accepted for processing and evaluation based on known technological or environmental concerns, identified social preference or potential conflicts with existing uses and activities. .
P	The non-tenured activity is present and ongoing in the Planning Unit
A	The non-tenured activity is absent from the Planning Unit

- Applications for log storage and handling uses are restricted to renewal, assignment and expansion of existing tenures.
- Applications commercial and industrial docks are restricted to renewal, assignment and expansion of existing tenures and must be sensitive to the existing DFO shellfish harvesting prohibition within 125 m of wharves used for moorage. This condition is in keeping with a resolution by the PRRD that a moratorium be placed on further applications for commercial dock facilities in Okeover and Theodosia Inlets until the impact of this type of facility on the mariculture industry is ascertained. This condition is subject to review either during the normal 3 year Plan review or following the creation of an Official Community Plan for the Area.
- Applications for commercial recreation guiding tenures should only be accepted where proponents include in their management plans:

ß operating practices that minimize negative physical effects of these activities on shellfish aquaculture tenures (i.e. promote client non-access across shellfish tenures, except as a safety measure).

ß commitment to provide clients with portable sewage containers and instructions for their use to avoid contamination of shellfish harvesting and growing areas within approved guidelines (see Appendix 3 – Protocol Agreement for Managing the Public Recreation and Water Quality in the Malaspina/Okeover Inlet Complex).

MANAGEMENT GUIDELINES:

- New tenures should minimize interference with commercial dive fishery sites.
- Applications for commercial or industrial uses throughout the Plan Area should be referred to either directly to CWS (via Environment Canada's Environmental Assessment Section) or to DFO for subsequent referral to CWS .
- Operators seeking bird scare permits from the Canadian Wildlife Service (CWS) should demonstrate due diligence in using siting and other mitigative measures to reduce the likelihood or the effect of diving duck predation (CWS has indicated that it will not issue kill permits for aquaculture activities).
- The Sliammon (Tla'amin) First Nation and the PRRD should undertake joint upland planning initiatives to assist in the control of land-based sources of marine pollution and address whether new commercial and industrial docks should be an acceptable use for the unit.
- The Vancouver Coastal Health Authority is encouraged to enforce sewage disposal regulations in the area.
- Individuals or groups with concerns related to shellfish aquaculture should consider the dispute resolution process available through the Farm Industry Review Board (FIRB) under the Farm Practices Protection (Right to Farm) Act (FPPA). (For details on regulation of shellfish aquaculture and dispute resolution, including FIRB and FPPA See Appendix 6).
- Recreation and tourism operators should encourage their clients to not use personal watercraft.
- Recognizing the recently signed Agreement in Principle regarding Treaty Settlement Lands, proponents are encouraged to seek support for tenure applications adjacent to those lands from the Sliammon (Tla'amin) First Nation. Where proponents have received support, they should obtain written confirmation of that support from the Sliammon (Tla'amin) First Nation for inclusion with their applications.
- The Council of BC Yacht Clubs is encouraged to educate its members to not anchor adjacent to or over shellfish aquaculture tenures when members boats are not equipped with sewage holding tanks.
- All entities interested in obtaining a "No Discharge Designation" specifically to prevent sewage dumping from marine vessels should make a collaborative application for such to DFO and Transport Canada.
- Provincial agencies and the PRRD and Sliammon (Tla'amin First Nation) should work together to identify and address unauthorized uses under the *Land Act*, including float homes.
- Utility owners are encouraged to post a sign at the site of the utilities indicating location of the utilities.
- Tourism and recreation operators should educate their clients on the location of utility rights of way

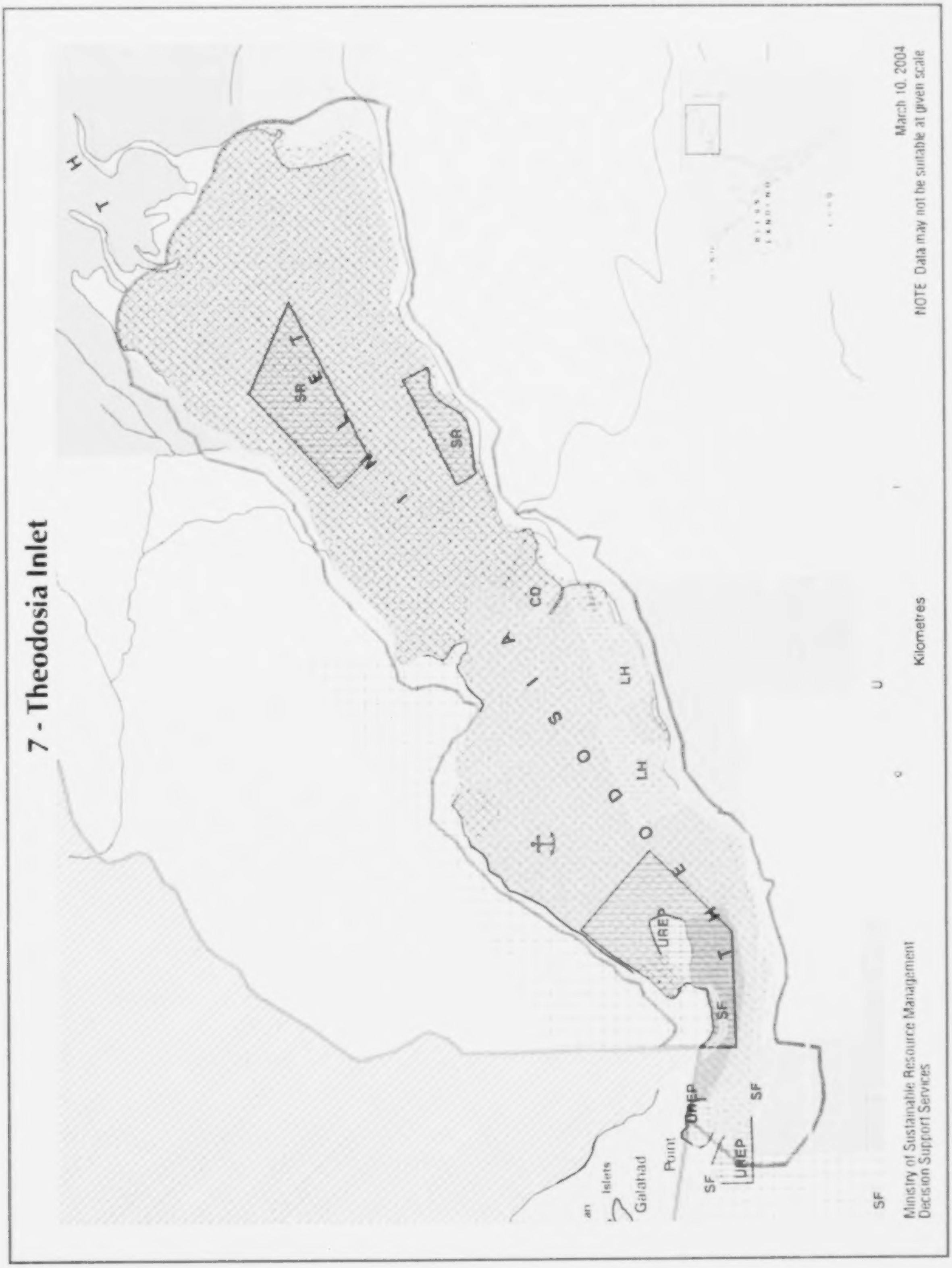
and advise that vessel operators should not anchor in the vicinity of those rights of way.

- Tourism and recreation operators should educate their clients regarding potential for contaminating shellfish growing areas, promote client non-access across shellfish tenures, except as a safety measure, and provide information on how to avoid sewage contamination of shellfish areas.
- Given the potential for sewage contamination of marine areas from upland areas with residential development, the PRRD and Sliammon (Tla'amin) First Nation should jointly develop an Official Community Plan for the area that seeks to avoid further contamination of marine areas in the unit.
- Shellfish aquaculture beach and off bottom operators should avoid the use of upland vegetation (i.e. shrubs and trees) for tenure anchoring purposes. Anchoring to trees on untenured Crown land constitutes an unauthorized use of Crown land.
- Shellfish aquaculture operators with Leases should provide signage that indicates that trespassing is not allowed without permission of the operator.
- If the results of ecological studies or monitoring of predator netting effects in Baynes Sound, Barkley Sound and Malaspina Okeover areas demonstrate unacceptable impacts, shellfish beach aquaculture operators should undertake measures to avoid those impacts.
- Tenure holders must ensure adequate sewage disposal facilities are available nearby for staff on site.
- Tenure operators should avoid stream channeling, building berms or any other habitat alteration, without specific DFO authorization, that could result in habitat impacts and federal *Fisheries Act* violations.
- Persons interested in entering Indian Reserves should seek permission from the Sliammon (Tla'amin) First Nation.

FOLLOW-UP ACTION:

- Create a *Land Act* Notation of Interest in favour of WLAP over the estuary at the head of Theodosia Inlet, including the lower riparian areas of the Theodosia and Farm Rivers, as areas for a marine conservation assessment to determine if they should be designated as a marine conservation area.
- Remove two *Land Act* shellfish map reserves on eastern side of Inlet in favour of MSRM for purposes of shellfish aquaculture. MOU sites; full disposition by Sliammon (Tla'amin) tenures.
- Maintain *Land Act* UREP map reserve at mouth of Inlet in favour of WLAP for purposes of conservation and recreation.
- MSRM to provide the PRRD with a large scale Planning Unit map to assist it in determining location of tenures and other values in this unit.
- MSRM to provide LWBC and MAFF with a map of the registered archeological sites in the Plan Area as a data base for consideration during any assessments and consultations conducted during their respective tenure application reviews.
- MSRM Archeology and Registries Services Branch to meet with the Sliammon to discuss enforcement options related to the Heritage Resources Act.
- Agencies will use current Provincial and agency policy for consultation with First Nations when reviewing tenure applications.

7 - Theodosia Inlet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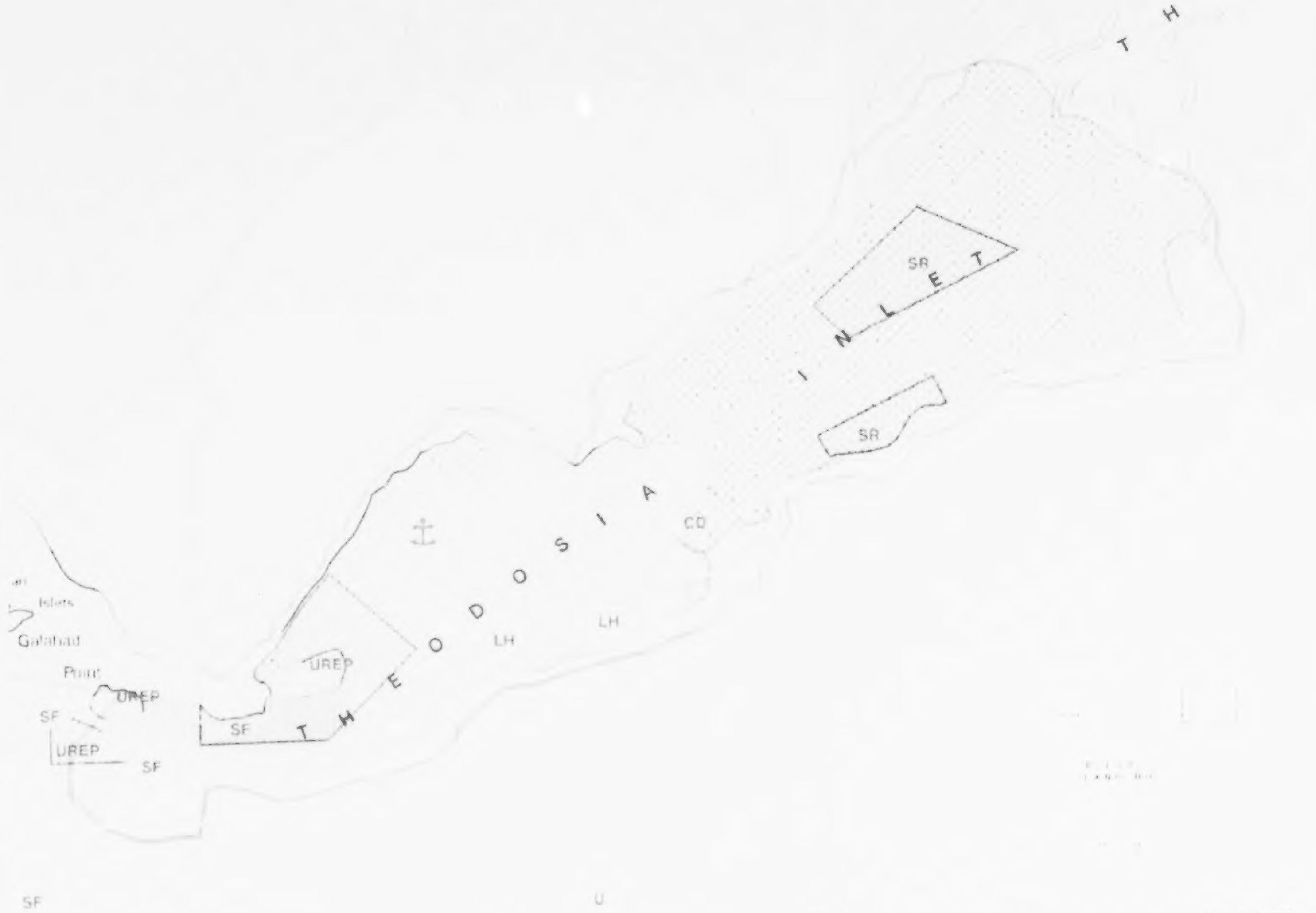
March 10, 2004

NOTE Data may not be suitable at given scale

Ministry of Sustainable Resource Management
Decision Support Services

7 - Theodosia Inlet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PLAN ASSESSMENT

4.1. Environmental Implications of Recommendations

■ RISK ASSESSMENT ■

Most human activities have the potential to both positively and negatively affect the environment. Understanding the risk of tenured activities such as those addressed in this Plan is critical in deciding whether to allow, or how to manage, each activity.

Risk is normally assessed by evaluating both the significance (extent, severity and duration) of negative effects and the probability of their occurrence. An ideal risk assessment would involve analysis of the probability and significance components of risk using a detailed mathematical analysis of ecosystem interactions anticipated from a proposed activity. However, in most cases, such as this Plan, the extensive data necessary for this kind of analysis were not available. Accordingly, a spatial analysis was used along with conservative assumptions.

This analysis is designed as a coarse filter to determine the general risk of Plan provisions. The scale at which this Plan has been prepared is not fine enough to guarantee that the same level of risk defined in the Plan can be automatically applied at the site specific application level. Site specific assessment are still required to determine the level of risk associated with each tenure application. A number of Technical Siting and Compatibility Criteria for Tenured Uses are used by various referral agencies to reduce risk from coastal developments (See Appendix 7 for detailed description of these criteria). The Plan accepts these as mechanisms to further reduce the environmental risk of Plan provisions at the site-specific tenure application stage, but also uses them in the spatial risk analysis described below.

A combined quantitative and qualitative approach was used to evaluate the overall environmental risk of Plan recommendations on the Plan Area as well as risk within each of the 7 Planning Units. It is not possible to estimate the actual range and number of new tenures that might be issued for each tenured use with or without the Plan, due to changing market forces, availability of financing etc. As a result, the environmental review provides conservative approximation of potential environmental risks as well as qualitative comments about environmental benefits. Also, while data availability was one of the considerations in selecting the Valued Ecosystem Components (VECs) used in this analysis and described below, accuracy of the environmental review is subject to the accuracy and comprehensiveness of currently available biological information in the Plan Area.

Eight VEC's were used in this analysis for the Malaspina Okeover Plan, which are biological values considered to be important components of the marine ecosystem (clam beds, eelgrass beds, salmonid streams, kelp beds, CWS areas, eagle nests, estuary and pinniped haulouts). These are included in the technical siting and compatibility criteria for agency reviews of site-specific tenure applications (see technical siting and compatibility criteria in Appendix 7) and are also found in the Plan Area.

The Plan includes recommendations designed to reduce the environmental risk from future tenured development. This section provides an evaluation of the relative risk of the provisions for each Planning Unit and the Plan Area as a whole compared to the anticipated risk without the Plan. This evaluation is based on Planning Unit conditions; location and extent of VEC's as determined by the technical siting and compatibility criteria for tenured use mentioned above, as well as the degree of overlap of potential areas open for application as defined by the Plan with the VEC's.

■ METHODOLOGY ■

The risk analysis of future conditions with and without this Plan were based on a spatial analysis of valued ecosystem components relative to the potential tenuring of various activities. In the absence of sufficient data it impossible to assign mathematical probability and significance values to the various tenured activities. Consequently, the approach taken in this analysis was conservative by making the following assumptions:

- the technical siting and compatibility criteria were developed by various review and licensing agencies on the understanding that their use would reduce risk. Therefore, if the Plan recommends areas that would be acceptable or conditionally acceptable for tenure application that satisfy the criteria (Appendix 7), the risk of the Plan provisions would be considered to be low;
- If the Plan recommendations were to provide for tenure applications in areas that do not satisfy the criteria, the risk would considered high, whether or not the potential application area directly overlaps a VEC or is adjacent to a VEC (See Appendix 8 for a description of the five steps used to develop this risk assessment).

In addition to an assessment of the potential risks of Plan provisions, this analysis included an evaluation of environmental benefits as well. These are qualitative in nature and are based on Plan provisions having reduced environmental risk from future developments.

ADDITIONAL STUDIES AND REVIEWS

A number of investigations in the area or related studies in other areas are either complete or under way to address a number of uncertainties

- A comprehensive collaborative oceanographic study of the Plan area involving the provincial and federal governments as well as Pacifica Paper (currently Norske Canada) found that modifications in the Theodosia Dam are likely to cause reduced salinities in Theodosia and Lancelot Inlets and minor salinity changes in Okeover and Malaspina Inlets. This study included a study of the biological carrying capacity the whole Plan area for shellfish aquaculture with a special focus on Trevenen Bay. The study that indicated there is a significant supply of nutrients to support the current level as well as expansion of shellfish aquaculture in the Plan Area, including Trevenen Bay and Okeover Inlet
- Environment Canada has conducted regular water quality surveys in Okeover Inlet under the mandate of the Canadian Shellfish Sanitation Program which have resulted in either closure of some areas either within or near the Plan Area or classification of some other areas (essentially closed).
- Canadian Wildlife Service and Simon Fraser University are conducting studies on birds and shore zone ecosystems in Baynes Sound, Barkley Sound and the Malaspina Inlet. The studies are entering their third of five years research and the results are currently only preliminary.
- MAFF is monitoring the effects of new clam predator netting on birds in Baynes Sound (continuing).
- Archipelago Marine Research reviewed environmental risks associated with shellfish aquaculture globally and in Baynes Sound and found that generally most shellfish aquculture activities present low to moderate risk to the environment, with lower risk from off bottom culture than beach culture. Risks are anticipated to be higher from stream channeling, and vehicular use of intertidal areas. And some uncertainty exists regarding risk from clam predator netting.

GENERAL PLAN ENVIRONMENTAL IMPLICATIONS

Specific Management Conditions, Guidelines and Follow-up Actions have been applied to each of the units within the Plan Area. The assessment took into account where Planning Unit recommendations and conditions indicate that no additional tenures should be contemplated or limited areas where applications would be acceptable (see section 3.0). These restrictions help to reduce the overall environmental risks of new tenured uses. The management guidelines, while more discretionary than the conditions, are still expected to decrease the environmental risks from new development. At the site-specific scale the many government agency technical criteria for siting and compatibility assessments will further mitigate or avoid impacts to specific marine biological attributes from proposed developments.

The Plan identifies "conservation" uses as acceptable in all 7 Planning Units as well as recommending some areas for conservation assessment for possible marine protection. This means that *Land Act* reserves, notations of interest and protected areas, where indicated by conservation assessments during Plan implementation, would provide further opportunities to protect or conserve discrete areas of high biological and recreational value. These opportunities may therefore result in additional protection of values that cumulatively should help offset any unforeseen environmental risks associated with new tenures in the Malaspina Okeover Plan Area.

An additional benefit of the Plan is that proponents will be able to determine from Plan maps where the VEC's are, and, accordingly, focus feasibility studies where applications are more likely to be approved (i.e. are likely to meet the technical siting and compatibility criteria).

The Plan also provides support and recommendations related to water quality that should assist in the maintenance of good water quality in the Plan Area, which will help to support both the shellfish aquaculture and tourism industries.

Areas without any VEC's were considered to be areas of low environmental risk for development. It is also expected that although in some cases applications may be made for operations that overlap VEC areas thereby increasing the risk, that risk would be reduced by the site-specific siting and compatibility requirements. In other words, although a use may be considered acceptable in some areas with VEC's, the siting and compatibility requirements at the site-specific scale are likely to preclude development in areas where risk is likely to be high or uncertain.

■ SUMMARY OF ASSESSMENT ■ (RESULTS OF ANALYSIS)

Appendix 8 provides detailed tables outlining the degree of risk in each unit, calculated for current, future without the Plan and future with the Plan. Table 14 summarizes these results as well as providing an overall risk assessment for the Plan Area as a whole.

According to this assessment, and the information used, all units would be rated low for environmental risk. This is due to a combination of the Plan provisions, and fewer VEC's in the General Marine areas where the Plan provides for more development than in the Recreation Emphasis areas.

In general, the overall risk of environmental impact from the Malaspina Okeover Coastal Plan provisions is considered to be low in all units, and this risk is lower than would be the case without the Plan. The degree of development that could occur as a result of this plan cannot be quantified for the following reasons:

- the Plan does not directly result in the approval of tenure applications, that is determined at the site-specific application stage;
- there is no measure of probable numbers of new future tenure applications;

Table 14. Plan Area Summaries

Coastal Foreshore and Nearshore Uses		**Malaspina Inlet North**	**Malaspina Inlet South**	**Trevenen Bay**	**Okevoer Inlet West**	**Okeover Inlet East**	**Lancelot Inlet**	**Theodosia Inlet**	**Plan Risk**	**out of**	**Projected Risk (Current + Future)**	**out of**
Shellfish Aquaculture	Beach	3.3	2.0	X	14.0	7.4	12.5	6.7	46	200	142	200
	Off Bottom											
	Subtidal											
Finfish Aquaculture		X	X	X	X	X	X	4.1	4	30	4	30
Log Storage and Handling		0.0	X	X	X	0.6	0.0	1.5	2	140	37	140
Docks Wharves and Facilities	Public	2.2	X	X	8.0	2.3	0.7	2.9	16	185	40	185
	Commercial											
Boat Launches		0.3	X	X	1.8	4.2	4.9	X	11	115	15	115
Marine Telecommunications		19.0	18.0	21.0	14.0	20.0	13.0	22.0	127	230	139	230
Floating Lodges and Camps		X	X	X	X	6.0	X	X	6	30	6	30
Float Homes		X	X	X	X	X	X	X	0	0	0	0
Private Moorage		1.5	X	X	5.5	21.0	14.0	X	42	150	42	150
Commercial Recreation Guiding		6.0	6.0	X	8.0	6.0	9.0	16.0	51	175	51	175
									305	1255	476	1255

- the Plan doe not measure the potential increase in numbers and types of tenures because actual development depends on many factors independent of the Plan, such as site-specific application reviews, marketing and financing factors.
- the number and type of actual new tenures that may be derived from the Plan is also highly speculative, although the Plan does recommend restricting certain types of uses; and,

The Plan recognizes and accepts existing uses, but is a forward looking exercise primarily intended to reduce future problems and conflicts. Consequently, it cannot reduce environmental risk from current levels. The opportunity for "conservation" uses and conservation assessments in this Plan may cumulatively offset or reduce environmental risks over the Plan Area.

4.2. Economic Implications of Recommendations

■ METHODOLOGY ■

The North Island Straits (NIS) Coastal Plan, completed in late 2002, included an attempt to conduct an abridged multiple accounts analysis (MAA) as a means to assess economic implications of that Plan's recommendations. The MAA method is used by provincial planning agencies and Crown corporations to systematically document and evaluate impacts from different perspectives or "accounts."[4] The MAA evaluation proved very difficult in the NIS case because that Plan could not guarantee that an application would be made or that applications would be approved and result in new tenured developments. The same limitation holds true for the Malaspina Okeover Coastal Plan. The assessment of economic implications of the Malaspina Okeover Coastal Plan will therefore rely largely on qualitative assessment.

A generalized list of coastal uses and their anticipated economic effect is reproduced from the NIC Coastal Plan in Table 15. While these data cannot readily be used to quantify the economic effects of the Malaspina Okeover Coastal Plan, they do illustrate the economic effect of the various uses contemplated by the Plan. While it is recognized that the activity of commercial fishing is an important activity in the Plan Area it has not been included in this table because this Plan is primarily designed to address uses tenured by the Province.

■ GENERAL ASSESSMENT ■

The Malaspina Okeover Coastal Plan designates tenured uses as acceptable (i.e. acceptable at current levels) if they are already tenured in a given Planning

Table 15. Economic Impact Coefficients for Selected Coastal Uses

Foreshore/ Nearshore Use	Capital Investment ($'000/site)	Annual Direct Jobs (PYs/site)	Annual Total Jobs (PYs/site)	Annual Direct BC Revenue* ($/site)
Finfish Aquaculture	900	4.0	7.60	43,000
Shellfish Beach Aquaculture	150	0.9	1.60	9,700
Shellfish Deepwater Aquaculture	110	2.0	3.30	21,500
Marine Plant Aquaculture	6	2.0	3.30	21,500
Floating Lodges	1,150	11.0	13.30	43,900
Commercial Rec. Base Camps	490	4.9	5.80	19,600
Heli-Log Drop Sites **	460	4.0	8.30	60,000
Log Sorts	850	1.5	3.10	22,500
Log Storage Pens	225	1.0	2.10	15,000
Public Docks and Wharves	56	1.8	3.6	26,000
Commercial Docks and Wharves	740	15.7	32.5	236,000
Tidewater Industrial	1,300	47.8	58.3	121,000

Sources: North Island Straits Coastal Plan, MSRM, December 2002

* Includes taxes on direct, indirect and induced incomes as well as direct LWBC lease/ rental fees.

** Capital investment estimate for heli-log drop sites assumes 6 sites each operated for 2 months per year.

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[4] MAA is *Social and Economic Impact Assessment for Land and Resource Management Planning in British Columbia: Interim Guidelines*, Integrated Resource Planning Committee, August, 1993. The guidelines for land and resource management planning are currently being reviewed and updated.

Unit. The Plan also recognizes and supports existing activities, including commercial and aboriginal food fisheries, that are neither tenured nor managed by the Province where they are known to occur. Therefore, the Plan affirms all existing uses and activities within the Plan Area, and along with them any current and projected economic benefits. However, the economic benefits of these existing uses (e.g. log handling and private moorage) are not attributed to the Plan.

In certain Planning Units, conditions exist that lead to restriction of some existing uses to current levels. Applications that were in process prior to approval of this Plan and that do not meet these conditions are intended to proceed through the normal interagency referral process at the discretion of LWBC, which would consider existing siting policies and the guidelines in the Malaspina Okeover Plan Area. In some cases, LWBC has informed proponents that it will not accept applications for new tenure or expansion of existing tenures until completion of the Plan. Plan provisions will apply to any applications for new tenure or tenure expansion received after completion date of the Plan.

Alternative locations may have cost and profitability implications for planned and proposed uses which can have indirect employment, provincial revenue and community impacts. These impacts are not quantified due to their uncertain nature and a lack of readily available data.

The Malaspina Okeover Coastal Plan will primarily affect future uses and related economic development. Quantitative estimates of the incremental impacts of the Plan for key commercial uses were not identified, as mentioned above, due to the speculative nature of determining future sites.

New log handling, storage and infrastructure are not envisioned for the Plan Area, beyond expansion within certain existing sites. This is because existing sites, some of which are currently underutilized, have the capacity to handle harvesting Plan Area harvesting requirements for the foreseeable future. Also, the Plan has limited the development of new sites. The Plan may impose costs on certain aquaculture, commercial and industrial activities, particularly where uses are conditionally acceptable. However, since the Plan's main impact is to establish general direction for dealing with applications, rather than changing specific siting criteria, it is unlikely that these costs would be greater than under the current management regime.

In addition to the implications for specific coastal uses, the Malaspina Okeover Plan has some indirect socio-economic benefits that result from coastal planning that cannot be quantified. These include greater investor certainty and reduced capital and operating costs resulting from affirmation of existing uses and clearer management direction for new development, which should clarify the terms and conditions governing the process administered by LWBC for accepting and approving applications and the siting of tenures for various uses.

Reduction in resource conflicts as a result of this Plan will likely lead to more sustainable economic development than has occurred in the Plan Area in the past. The Plan recognizes that tourism, recreation, residential and aquaculture interests all have a valid case for existing in the area, given the area's ideal location for their respective activities. The Plan contains specific provisions to fairly accommodate opportunities for all these uses, while minimizing future new conflicts. This includes identification of Recreation Management Emphasis along with multiple use in two units (Malaspina Inlet North and Okeover Inlet West), Aquaculture Management Emphasis in one unit (Trevenen Bay), and General Management Emphasis (i.e. more opportunities for multiple use) in the remaining 4 Planning Units.

The issue of allocating wild clam beaches on Crown land for shellfish culture as opposed to leaving those beaches for continued wild commercial and recreational harvests is a challenging one. From a socioeconomic and economic efficiency perspective the best use for such beaches may be aquaculture, however from a socio-economic equity perspective, maintaining beaches for wild harvest may help to sustain the commercial clam fishing livelihood and provide opportunities for spin-off benefits to the tourism and recreation industry through recreational picking opportunities. The Plan recognizes the need for shellfish culture tenures to minimize interference with wild harvesting, but leaves the final decision at the site-specific level, given that LWBC is ultimately must decide on the highest and best use of each site should be, in the event of a tenure application.

The Plan represents a compromise among

competing interests and, consequently, cannot meet every wish of each interest group in the Plan Area. Accordingly, Plan provisions will result in some development opportunities as well as some limitations in development opportunities. Overall, the Plan represents a significant step towards a more harmonious coexistence of various users in the future, in addition to providing some opportunities for increased economic return to the area.

The proportion of new investment and employment opportunities that will accrue to communities and residents of the Plan Area depends on the local sourcing of labour and materials, supplies and equipment. Local sourcing depends on factors such as the type of use, the proximity of the development to communities in the Plan Area, local production capacity and the hiring policies of tenure holders. The Plan attempts to ensure these benefits accrue to local communities by restricting many uses requiring infrastructure, such as docks and wharves, to Planning Units or areas within Planning Units containing existing settlements or with greater potential for settlement.

Economic benefits of the Plan are expected to accrue to both the Plan Area and to larger communities in the surrounding area.

The above discussion applies to both First Nation and non-First Nation communities. Unemployment rates among First Nations are typically much higher than for non-aboriginal population, and First Nations communities are much more reliant upon a mixed-subsistence economy which relies on marine food sources, particularly fisheries, to supplement household incomes or compensate for low incomes. The Sliammon (Tla'amin) First Nation has developed strategies for both shellfish aquaculture and commercial recreation and tourism development based on the understanding that these activities can mutually coexist, if managed effectively. Further, harvests of marine resources are likely to remain important parts of the Aboriginal income stream in the Plan Area. The Plan encourages increased involvement for the First Nations communities in economic activities, while respecting traditional resource based uses and activities. If properly implemented, the Plan should have positive economic implications for First Nations communities. The Plan is also intended to have a positive impact by raising public awareness about sensitivity to archeological sites within the region.

SUMMARY AND FOLLOW-UP

5.1. Summary of Plan Recommendations

Table 16. Summary of Recommended Uses by Planning Unit

	Malaspina Inlet North	Malaspina Inlet South	Trevenen Bay	Okevoer Inlet West	Okeover Inlet East	Lancelot Inlet	Theodosia Inlet
Shellfish Beach Aquaculture	O	O	O	O	✓	✓	O
Shellfish Off Bottom Aquaculture	O	O	O	O	✓	✓	✓
Shellfish Subtidal Aquaculture	✓	✓	X	✓	✓	✓	✓
Finfish Aquaculture	X	X	X	X	X	X	O
Boat Launches	O	X	X	O	O	O	X
Log handling Storage & Infrastructure	O	X	X	X	O	O	O
Conservation	✓	✓	✓	✓	✓	✓	✓
Public and Institutional Docks	O	X	X	O	✓	✓	✓
Commercial and Industrial Docks	X	X	X	O	O	X	O
Float Homes	X	X	X	X	X	X	X
Marine Telecommunications and Utilities	✓	✓	✓	✓	✓	✓	✓
Commercial Recreation Guiding	✓	✓	X	O	O	O	O
Private Residential Moorage	O	X	X	✓	O	✓	X
Floating Lodges and Camps	X	X	X	X	O	X	X
Management Emphasis	Rec	Gen	Aqua	Rec	Gen	Gen	Gen

Note: Management Emphasis: Gen = General Marine, Aqua= Aquaculture, Rec = Recreational

✓ Applications Acceptable **O** Applications Conditionally Acceptable **X** Applications Unacceptable

5.2. Information Limitations

The unit maps and unit direction presented in this Plan will be used by LWBC, potential applicants and the public to determine the acceptability of a Crown foreshore or nearshore application. Plan users should be aware of the limitations inherent in the Planning Unit descriptions and maps. While the maps and text for each unit outline known values and uses within each unit, they can only represent information available at the time of Plan preparation. Consequently, this Plan cannot and should not replace LWBC requirements for site specific information to accompany an application.

Since the Planning Unit maps are available on the MSRM web site and are linked to all supporting maps and information sources within MSRM, they will be regularly updated and will therefore be of increasing value to LWBC and other users in such activities as plan auditing, plan amendment, site planning and marketing.

5.3. Summary of Recommendations for Land Act Notations

A summary of management prescriptions for *Land Act* map reserves and notations of interest is provided in Table 17. In order for LWBC to place or maintain map reserves or notations over these foreshore and nearshore areas, official letters of request will be required from WLAP and/ or MOF. UREP and other reserve designations do not preclude commercial or recreational harvesting of wild clams. DFO has indicated that commercial harvesters operate for an average of 20 days per year under a DFO management strategy that leaves ample stock on the beach for recreational harvesters.

Shellfish reserves for First Nations aquaculture are the result of a Memorandum of Understanding between the province and the Sliammon (Tla'amin) First Nation. This provides a ten year time window during which this First Nation has the exclusive opportunity to apply for, and develop, shellfish aquaculture tenures. Once tenured, or if the ten year period elapses prior to a tenure being issued, the reserve status lapses.

Table 17. Summary of Recommendations for Foreshore/ Nearshore Areas under Land Act Map Reserve or Notation of Interest (NOI) Status.

Planning Unit	Specific Area	Purpose and Sponsoring Agency
Unit 1	NW of Thorp Island	Maintain shellfish MAP RESERVE #2400455 in favour of LWBC for purposes of shellfish aquaculture
Unit 1	S of Rosetta Rock	Maintain log storage and handling MAP RESERVE #2406203 in favour of MOF for purposes of resource inventory
Unit 2,3	unnamed Island W of Isbister Islands	Maintain MAP RESERVE #2403064 in favour of MSRM
Unit 2,3,4	Isbister Islands	Maintain UREP NOI #2406028 in favour of MSRM and MOF for purposes of conservation and recreation
Unit 3	W Trevenen	Remove log storage and handling MAP RESERVE #2404307 in favour of MOF for institutional purposes
Unit 3	W Trevenen	Maintain science measurement/ research MAP RESERVE #0345990 in favour of MOF for purposes of conservation and recreation
Unit 3	E Trevenen	Remove shellfish MAP RESERVE #2403913 in favour of MAFF for purposes of shellfish aquaculture. Overlaps tenure #2401516
Unit 4	West Okeover (N of Public Wharf)	Convert UREP NOI #2405550 in favour of LWBC to UREP MAP RESERVE in favour of WLAP for purposes of recreational shellfish harvest
Unit 4	Lucy Rock	Remove shellfish MAP RESERVE #0256022 for purposes of shellfish aquaculture in favour of MAFF (Sliammon (Tla'amin) FN tenure #1411069)
Unit 4	Lucy Rock	Maintain shellfish MAP RESERVE #0268046 in favour of MAFF for purposes of shellfish aquaculture
Unit 5	Freke Anchorage	Remove shellfish MAP RESERVE #0196838 in favour of MAFF for purposes of shellfish aquaculture (Sliammon (Tla'amin) FN tenure #1411073)
Unit 5	Freke Anchorage	Maintain UREP MAP RESERVE #0292739 in favour of WLAP for purposes of conservation and recreation and to reserve the area for a marine conservation assessment
Unit 5	Freke Anchorage	Add area of estuary currently not covered by the UREP and the shellfish tenure to the NOI in favour of WLAP for purposes of a marine conservation assessment.
Unit 5	SE Okeover	Maintain UREP NOI #0203111 in favour of MOF for purposes of conservation and recreation
Unit 5	SE Okeover	Maintain shellfish MAP RESERVE #0177856 in favour of MAFF for purposes of shellfish aquaculture (partial disposition by Sliammon (Tla'amin) FN tenure # 14 1072)
Unit 5	Larson's Landing	Maintain shellfish MAP RESERVE #2405491 in favour of MAFF for purposes of shellfish aquaculture
Unit 5	Larson's Landing	Maintain shellfish MAP RESERVE #0252815 in favour of MAFF for purposes of shellfish aquaculture
Unit 5	Larson's Landing	Maintain UREP MAP RESERVE #2403293 in favour of MOF for purposes of conservation and recreation
Unit 5	East Okeover	Maintain science measurement/ research MAP RESERVE #2402130 in favour of Public Works Canada for purposes of conservation
Unit 5	East Okeover	Maintain science measurement/ research MAP RESERVE #2400456 in favour of MOF for purposes of conservation and recreation
Unit 5	East Okeover	Maintain shellfish MAP RESERVE #2407930 in favour of MAFF for purposes of shellfish aquaculture
Unit 6	South Lancelot	Maintain shellfish MAP RESERVE #0252658 in favour of MAFF for purposes of shellfish aquaculture
Unit 6	S of Bunster Point	Maintain log storage and handling NOI #2404304 in favour of MOF for purposes of resource inventory

Unit 6	Thors Cove	Remove shellfish MAP RESERVE #0254334 in favour of MAFF for purposes of shellfish aquaculture (Sliammon (Tla'amin) FN tenure #1411071)
Unit 6,7	Gallahad Point	Maintain UREP MAP RESERVE #0203109 in favour of MOF for purposes of conservation and recreation
Unit 6,7	Gallahad Point	Maintain UREP MAP RESERVE #0203228 in favour of MOF for purposes of conservation and recreation
Unit 7	Theodosia	Create a NOI in favour of WLAP over the Theodosia estuary including the streams and lower riparian areas of the Theodosia and Farm Rivers to reserve the area for a marine conservation assessment.
Unit 7	Theodosia	Maintain UREP MAP RESERVE #0215525 in favour of MOF for purposes of conservation and recreation
Unit 7	Theodosia	Remove shellfish MAP RESERVE #0252816 in favour of MAFF for purposes of shellfish aquaculture (Sliammon (Tla'amin) FN tenure #1411074)
Unit 7	Theodosia	Remove shellfish MAP RESERVE #0252814 in favour of MAFF for purposes of shellfish aquaculture (Sliammon (Tla'amin) FN tenure #1411070)

5.4. First Nations Considerations

The Province views participation by the Sliammon (Tla'amin) First Nation in shaping the Planning Unit recommendations within their traditional territories as an opportunity to obtain additional information about First Nations interests in the Plan Area.. Through such participation, the Plan is intended to foster improved working relationships, reduced impact of resource use activities on First Nations activities, and greater participation of the Sliammon (Tla'amin) First Nation in economic development of resources.

The Plan continues to encourage all tenure applicants to develop working relationships with the Sliammon (Tla'amin) First Nation. Such working relationships could include:

- joint venturing or partnerships for development;
- major First Nations involvement in operations;
- training and employment of First Nations people in a development or tenure;
- working with First Nations to identify and avoid areas of cultural and spiritual significance;
- gaining First Nations support for tenure applications;
- obtaining First Nations support in marketing of a development or business;
- guardian programs for marine conservation and recreation areas.

It is recommended that non-tenured users of Crown foreshore and nearshore make efforts to engage the Sliammon (Tla'amin) First Nations in discussion, where proposed activities are adjacent to Treaty Settlement Lands and where they may be in conflict or a source of friction with First Nations cultural values sites.

The Sliammon (Tla'amin) First Nation's Administrative Office can be reached at:

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RR#2 Sliammon (Tla'amin) Road
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V8A 4Z3
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5.5. Marine Conservation & Integrated Coastal Management

Two Planning Units contain areas recommended as temporary notations of interest, for the express purpose of maintaining key marine conservation and recreation values (See Table 18). Future options for conservation and recreation management include individual designation tools or combinations of designation tools such as: Provincial Parks and Ecological Reserves under the *Provincial Protected Areas of British Columbia Act*, provincial marine protection areas under the *Environment and Land Use Act*, *Canada Oceans Act* Marine Protected Areas; fisheries closures under the federal *Fisheries Act*; and permanent *Land Act* reserves and a Passive Recreation Wilderness Area under the management of the PRRD.

DFO has recently initiated an integrated management process, pursuant to the July 2002 *Canada Oceans Strategy* and its associated policy for

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Planning Unit	Description of area requiring assessment
Unit 5	Freke Anchorage (including current UREP and remaining untenured area between UREP and the shellfish aquculture tenure and the shellfish aquaculture reserve.
Unit 7	Estuary at the head of the Theodosia River, including the intertidal area as well as the lower riparian areas of the Theodosia and Farm Rivers but not including the existing shellfish aquaculture reserves.

integrated management of coastal and marine areas. The policy provides for mechanisms to address marine conservation and integrated management planning for marine ecosystems for both large and smaller oceans areas. A determination of the most appropriate conservation or protection tools for individual areas would be part of this assessment. This determination should be made during the next 24 month period, and include recommendations as to the most appropriate management option identified.

5.6. Plan Variation Process

Plan provisions that identify that an application in a Planning Unit would be "Not Acceptable" or "Conditionally Acceptable" may be challenged on a site-by-site basis. This process to vary the Plan's recommendations must be made in writing to the LWBC Service Centre Director by the proponent.

LWBC should only accept a request for Plan variation if it is based on one or more of the following conditions, which are to be specifically addressed in the variation request letter:

- The proposed use is based on new technologies or methods of operation that were not available, not contemplated or not considered during development of the Plan;
- The proposed use represents, or is part of a new economic activity or venture that was not considered or contemplated during development of the Plan;
- The proposed use reflects changes in local community support, as reflected by evidence of local government and / or First Nation endorsement
- The proposed use is based on new information that was not available at the time of plan development

The recommended Plan variation process is as follows:

- The proponent provides a formal letter requesting Plan variation to the LWBC Service Centre Director, with relevant rationale and documentation, including geographic location of the proposal.
- Within 15 days of receiving the appeal, the variation request letter will be distributed to a standing Coast Region Interagency Resource Management Committee (CR-IAMC) for consideration.
- The CR-IAMC will review the variation request and make a recommendation to the LWBC Service Centre Director within 60 days of receipt of the letter. The proponent may be requested to make a presentation to the Committee. The CR-IAMC will recommend acceptance or rejection of the variation request and any subsequent information required for inclusion in a tenure application if the request is upheld.
- LWBC will consider the recommendations of the committee and advise the appellant of the LWBC decision. If the decision is to accept an application, the proponent may complete the LWBC application form and the application will be processed according to LWBC standard procedures, subject to any other LWBC requirements or issues.
- LWBC acceptance and processing of an application based on a successful Plan variation request should not be interpreted as support for issuance of a tenure by LWBC or the CR-IAMC.

A successful Plan variation request will not automatically result in change to the Plan's acceptable use provisions for that unit. However, permanent change to such provisions may be made at the time of Plan review if there have been a large number of variation requests.

The variation process for the Malaspina Okeover Coastal Plan should be formalized througuh an agreement between the LWBC Service Centre Director and the MSRM Regional Director.

5.7. Plan Review and Amendment

Three years from the anniversary date of Plan approval, the Ministry of Sustainable Resource Management (MSRM) will prepare an audit report on tenure applications and approvals that addresses the degree of compliance with the Plan. A listing of interpretation issues, Plan variation requests and any public comments received during the three year period, as well as recommended plan amendments will be included in the report along with recommended actions or plan adjustments.

The audit report will be presented to the CR-IAMC chaired by MSRM. The committee will use this report as the basis of a formal Plan review, which may lead to the redrafting and reaffirmation of the Plan by government. The process for redrafting or reaffirmation will include consultations with the Sliammon (Tla'amin) First Nations, discussions with the PRRD, if affected, members of the Plan advisory committee, any boards associated with integrated oceans management, and interest groups. Any revised or modified Plan will be posted on the MSRM website.

5.8. Summary of Follow-up Activities for Government Agencies

Table 19. Summary of Schedule of Follow up Activities

Sequence	Name of Activity	Initiation Date	Lead Responsibility
1	MSRM to provide MAFF and LWBC with a map of the registered Archeological Sites in the Plan Area.	March 2004	MSRM
2	MSRM to provide funding to assist the PRRD in the conduct of a study to assess the feasibility of a passive recreation wilderness area on the Coode and Isbister Islands.	March 2004	MSRM
3	MSRM to provide PRRD with large scale maps of the Planning Units clearly showing tenures and other values.	March 2004	MSRM
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5	In developing and implementing a Malaspina Park Management Plan, WLAP to consider protection and maintenance of drinking water quality in Wednesday and Hinder Lakes.	April 2004 - continuing	WLAP
6	Confirm interagency agreement for Malaspina Okeover Plan variation process	April 2004	LWBC & MSRM directors
7	Official requests submitted from agencies for notations of interest (additions, removals, renewals)	April 2004	MSRM, LWBC, MOF and WLAP
8	Provincial Agencies, the PRRD and the Sliammon (Tla'amin) First Nation will work together to identify and address unauthorized uses under the *Land Act* in the Plan Area.	May 2004	MAFF, LWBC, PRRD, Sliammon
9	MSRM Archeology and Registration Service Branch to meet with the Sliammon First Nation to discuss enforcement options related to the *Heritage Resources Act*.	May 2004	MSRM, Sliammon
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11	Remove and convert notations and reserves	August 2004	LWBC
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13	Prepare Audit Report & Formal Plan Redraft (if required).	March 2006	MSRM
14	Planning Unit Variations As required	Ongoing	LWBC

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APPENDICES

Appendix I: Governance Principles for Sustainable Resource Management

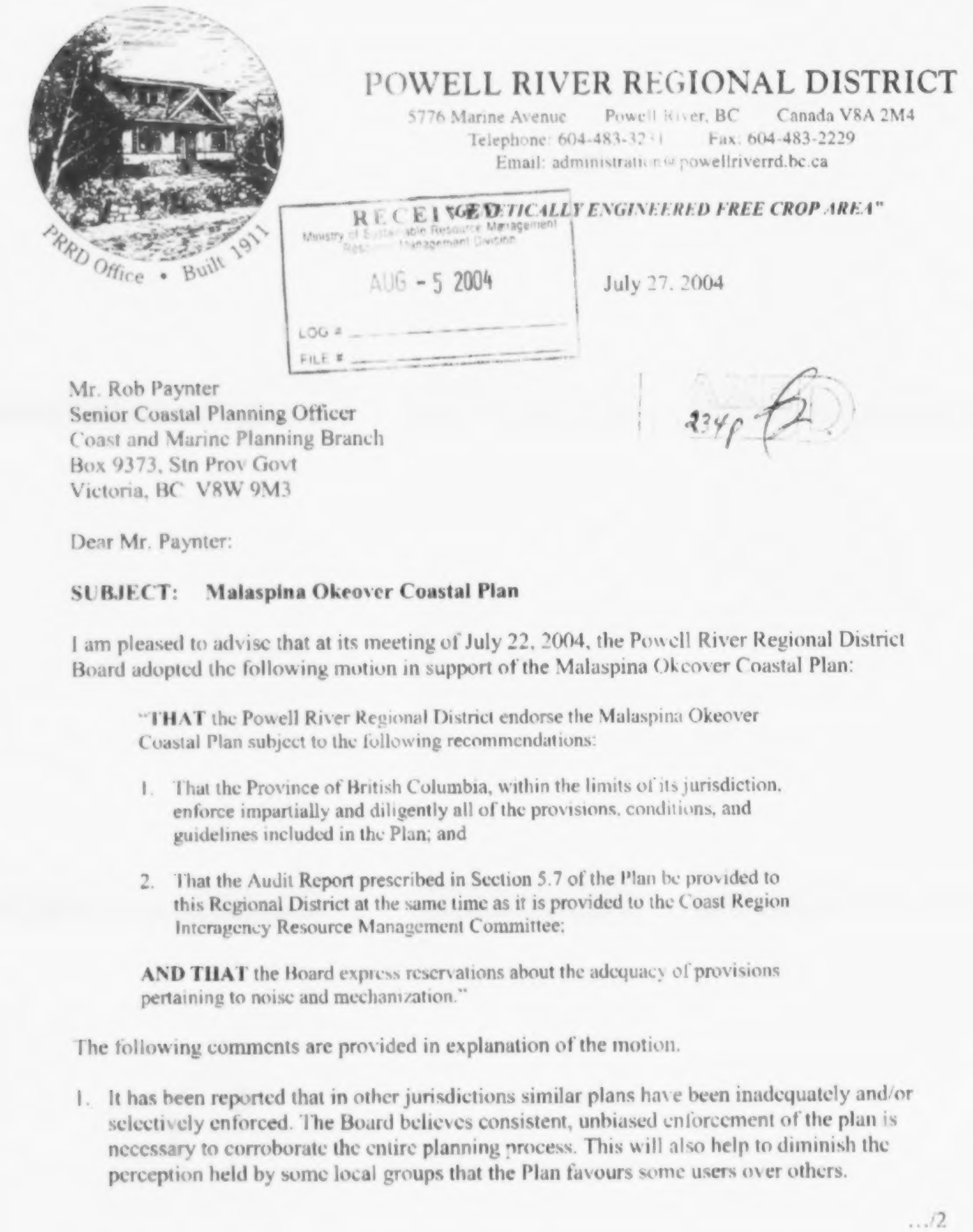
Themes	Governance Principles
Certainty is about improving access to Crown land and resources; streamlining decision-making; seeking to accommodate First Nations interests; improving Crown land tenure management; improving the investment climate; and ensuring access to markets.	**Certainty** - Making timely and clear decisions within a predictable and understandable framework. **Competitiveness** - Ensuring that British Columbia remains internationally competitive by removing barriers to investment and promoting open trade. **Efficiency** - Focused and efficient delivery of government services and maximizing the net benefits arising from the allocation, development and use of natural resources.
Accountable and Responsive Government is about setting clear standards and ensuring those standards are being met through monitoring, enforcement, auditing and reporting.	**Accountability** - Enhancing performance management through effective compliance, enforcement, auditing and public reporting activities. **Continual improvement & innovation** - Learning from the past, adapting to changing circumstances, encouraging innovation and being entrepreneurial. **Science-based decision-making** - Making justifiable decisions informed by science-based information and risk management. **Transparency** - Establishing open and transparent decision-making processes that consider First Nations, the public and other key interests.
Shared Stewardship is about working cooperatively to achieve a sustainable future by shifting towards results based approaches, providing incentives and taking into account economic, environmental and social objectives.	**Inclusion** - Including the interests of First Nations, and their desire to participate more fully in the economy of the Province. **Integration** - Ensuring that decisions integrate economic, environmental and social elements, while considering the limits of each, for the benefit of present and future generations. **Shared responsibility** - Encouraging co-operation among First Nations; federal, provincial and local governments; academics; industry and non-governmental organizations in developing and implementing policies.

Appendix 2: First Nations, Agency, and Interest Group Discussions

Table A.2.1. Government, First Nations and Interest Groups Contacted in Plan Development

Group, Agency, Nation, First Nation, Regional Government, and Community	Nature of Contact
Sliammon (Tla'amin) and Klahoose First Nations	Sliammon (Tla'amin): Regular meetings, correspondence and telephone discussions and reviews of draft materials. Plan Advisory Committee Co-chair. Klahoose: Initial meeting and invitation to participate (declined); additional invitation to participate at end of process (participated in final Plan review).
Powell River Regional District	Plan Advisory Committee Co-Chair (by Chair of the Regional District Board); separate representation on committee by Regional Director, Electoral Area A. Extensive consultation and information sharing with PRRD Board Chair and Director, Electoral Area A.
Malaspina Okeover Advisory Committee	Local Meetings (5-6)
Industry	
BC Shellfish Growers Association	Meeting and Information exchange
Active Malaspina Mariculture Association	Meetings and Information exchange
Sea Kayak Groups and Companies	Meetings and Information exchange
Tourism Operators	Meetings and Information exchange
Underwater Harvesters Association	Meeting and Information exchange
Okeover Harbour Authority	Information exchange
Okeover Tourism Business Association	Meetings and Information exchange
Area 'C' Clam Harvesters Advisory Committee	Information exchange
Powell River Prawn Group	Information exchange
Fishing Vessel Owner's Association	Invitation to review plan – no response
Area C Clam Harvesters	Information exchange
Provincial and Federal Agencies	
Ministry of Forests	Information exchange
Ministry of Agriculture, Food and Fisheries	Meetings; information exchange
Ministry of Water, Land and Air Protection	Meetings; information exchange
Land and Water British Columbia	Meetings; information exchange
Department of Fisheries and Oceans	Meetings; information exchange
Environment Canada-Canadian Wildlife Service	Information exchange
Environment Canada-Shellfish Laboratory	Information exchange
Non-Government Organizations	
Alliance for Responsible Shellfish Farming	Meetings and information exchange
Council of BC Yacht Clubs	Meeting and Information exchange
Okeover Ratepayers Association	Meetings and Information exchange
Powell River Parks and Wilderness Society	Meeting and Information exchange
Malaspina Community Residents Association	Meetings and Information exchange
Marine Resource Management Advisory Committee	Meetings and information exchange
Powell River Parks and Wilderness Society	Meeting and information exchange
General Public	
Individual stakeholders and residents	Written (email and post) and verbal (telephone) communications and information exchanges. Two advertised public open houses.

Figure A.2.1. Powell River Regional District



POWELL RIVER REGIONAL DISTRICT
5776 Marine Avenue Powell River, BC Canada V8A 2M4
Telephone: 604-483-3231 Fax: 604-483-2229
Email: administration@powellriverrd.bc.ca

"GENETICALLY ENGINEERED FREE CROP AREA"

PRRD Office • Built 1911

RECEIVED
Ministry of Sustainable Resource Management
Resource Management Division
AUG - 5 2004
LOG #
FILE #

July 27. 2004

234f

Mr. Rob Paynter
Senior Coastal Planning Officer
Coast and Marine Planning Branch
Box 9373, Stn Prov Govt
Victoria, BC V8W 9M3

Dear Mr. Paynter:

SUBJECT: Malaspina Okeover Coastal Plan

I am pleased to advise that at its meeting of July 22, 2004, the Powell River Regional District Board adopted the following motion in support of the Malaspina Okeover Coastal Plan:

> "**THAT** the Powell River Regional District endorse the Malaspina Okeover Coastal Plan subject to the following recommendations:
>
> 1. That the Province of British Columbia, within the limits of its jurisdiction, enforce impartially and diligently all of the provisions, conditions, and guidelines included in the Plan; and
>
> 2. That the Audit Report prescribed in Section 5.7 of the Plan be provided to this Regional District at the same time as it is provided to the Coast Region Interagency Resource Management Committee;
>
> **AND THAT** the Board express reservations about the adequacy of provisions pertaining to noise and mechanization."

The following comments are provided in explanation of the motion.

1. It has been reported that in other jurisdictions similar plans have been inadequately and/or selectively enforced. The Board believes consistent, unbiased enforcement of the plan is necessary to corroborate the entire planning process. This will also help to diminish the perception held by some local groups that the Plan favours some users over others.

…/2

- 2 -

2. The Regional District has been an active participant throughout this initial planning process. Also, as the government agency closest to the situation, our constituents will undoubtedly notify us of future use conflicts that may arise and may even request our assistance in resolving same. For these reasons, the Board feels strongly that the Regional District must receive the audit report and be actively involved in any review process.

3. Based on situations elsewhere, some residents and commercial operators in the planning area remain seriously concerned about potential noise disturbance which could result from increased mechanization of aquaculture operations. Directors request that you revisit the Plan provisions pertaining to noise and mechanization and, if necessary, revise them to provide greater certainty that such noise pollution will not occur.

Overall, the Board is satisfied that the Plan reasonably accommodates the diverse interests in the planning area and that its management strategies and guidelines provide a sound basis for minimizing future conflicts among the varied user groups.

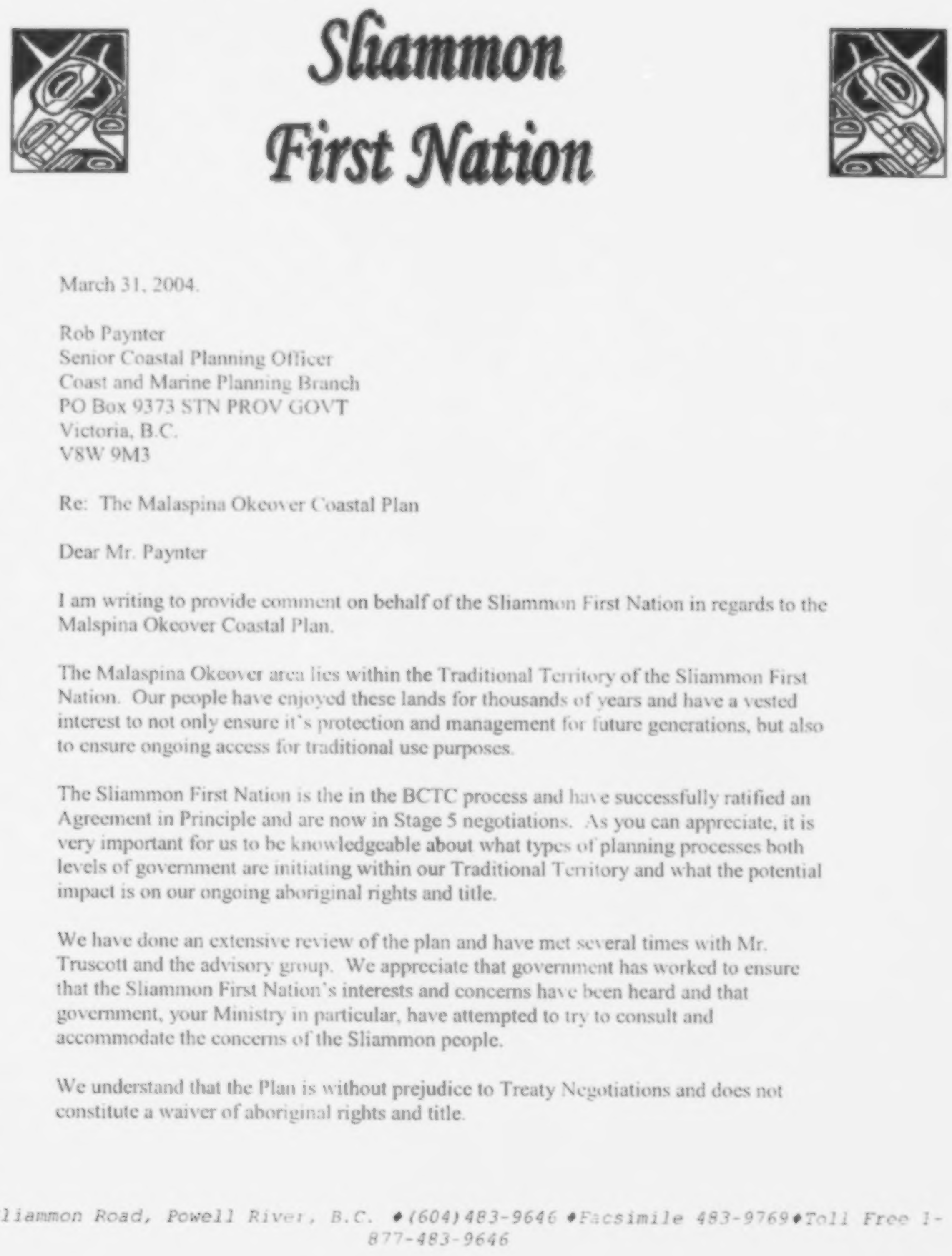
We much appreciate the Province's initiative in completing this Plan and your efforts to include all interests in the long and sometimes contentious planning process. We will watch with interest the Plan's impact on future development in the Malaspina/Okeover Inlets area.

Sincerely,

Colin S. Palmer

Colin S. Palmer
Chair

Figure A.2.2. Sliammon (Tla'amin) First Nation Letter



Sliammon
First Nation

March 31, 2004.

Rob Paynter
Senior Coastal Planning Officer
Coast and Marine Planning Branch
PO Box 9373 STN PROV GOVT
Victoria, B.C.
V8W 9M3

Re: The Malaspina Okeover Coastal Plan

Dear Mr. Paynter

I am writing to provide comment on behalf of the Sliammon First Nation in regards to the Malspina Okeover Coastal Plan.

The Malaspina Okeover area lies within the Traditional Territory of the Sliammon First Nation. Our people have enjoyed these lands for thousands of years and have a vested interest to not only ensure it's protection and management for future generations, but also to ensure ongoing access for traditional use purposes.

The Sliammon First Nation is the in the BCTC process and have successfully ratified an Agreement in Principle and are now in Stage 5 negotiations. As you can appreciate, it is very important for us to be knowledgeable about what types of planning processes both levels of government are initiating within our Traditional Territory and what the potential impact is on our ongoing aboriginal rights and title.

We have done an extensive review of the plan and have met several times with Mr. Truscott and the advisory group. We appreciate that government has worked to ensure that the Sliammon First Nation's interests and concerns have been heard and that government, your Ministry in particular, have attempted to try to consult and accommodate the concerns of the Sliammon people.

We understand that the Plan is without prejudice to Treaty Negotiations and does not constitute a waiver of aboriginal rights and title.

Sliammon Road, Powell River, B.C. ♦(604)483-9646 ♦Facsimile 483-9769♦Toll Free 1-877-483-9646

We appreciate the opportunity to hear the views, plans and concerns of the residents and to learn about the Province's future plans for the area. We expect that as our Treaty negotiations progress, we will have many future opportunities to dialogue not only with the local residents, but with the various Ministries within our Territory.

I thank you (Cheh cheha thetch) for taking the time and initiative to consult with our people and for the opportunity to learn about each other.

Denise Sm

Denise Smith – Kwy em tomolx – "Speaks for her people"
Councillor for the Sliammon First Nation
Treaty Negotiator

CC Chief Maynard Harry – Sliammon First Nation
Joe Gallagher – Chief Negotiator for Sliammon

Appendix 3: Protocol Agreement for Managing Public Recreation and Water Quality in the Malaspina/Okeover Inlet Complex (signed in 2001)

BC Fisheries, BC Parks, the British Columbia Assets and Land Corporation and the Ministry of Forests jointly agree to co-operate to manage public recreation and other resource use activities to maintain shellfish growing water certification and shellfish farming opportunities within the Malaspina complex. Given the respective jurisdiction of each agency, this goal will be realized by effective management of activities, which are potential upland and marine sources of pollution.

The area covered by this agreement involves the greater Malaspina complex and corresponding watershed as outlined in the attached Schedule A. This includes a significant portion of the area defined by the Okeover Round Table (ORT). This arrangement will help ensure that the efforts of the agencies and the work of the ORT are coordinated and consistent with Cabinet direction on the protection of opportunities for shellfish aquaculture development relative to the establishment of Malaspina Park within this area.

Specifically the agencies agree:

- to develop or adopt from industry, codes of practices for kayaking, yachting, aquaculture, log handling and other water based activities, and within the influence of their respective legislated mandates, encourage the implementation of these codes of practices within the area of this agreement;
- to advise on appropriate locations for recreational sites and facilities within the lands identified in Schedule A and ensure that the development of recreation opportunities and facilities be limited to low impact terrestrial opportunities, recognizing that the marine areas of Desolation Sound Marine Park, within this Schedule A area, will continue to be managed for marine recreation and conservation values including potential appropriate marine recreation facilities;
- to recognize the economic and social importance and contribution that commercial Crown land tenures within the region provide to the province; and that no party will unreasonably withhold support for future commercial development;
- to discuss and address when and where possible, conflicts which may arise between different users of marine water resource;
- to compile and exchange non-confidential spatial resource information on relevant resources and resource use within the area. These may include current aquatic and upland tenures, recreational and heritage and terrestrial and resource features;
- to exchange information on tenures and park use permits and resource information relevant to planning for recreational and resource development, also land leases, licences of occupation, mariculture tenures, commercial recreation tenures and forest development plans;
- that as a condition of commercial recreational tenures for kayak tours in the area, the use of portable sewage containers will be investigated with the relevant stakeholders and may become mandatory; and,
- to maximize co-ordination and co-operation on information and signage relevant to aquaculture and recreational operations in the area.

____________________ __________
Date

IAMC Representative
BC Assets and Land Corporation

____________________ Date

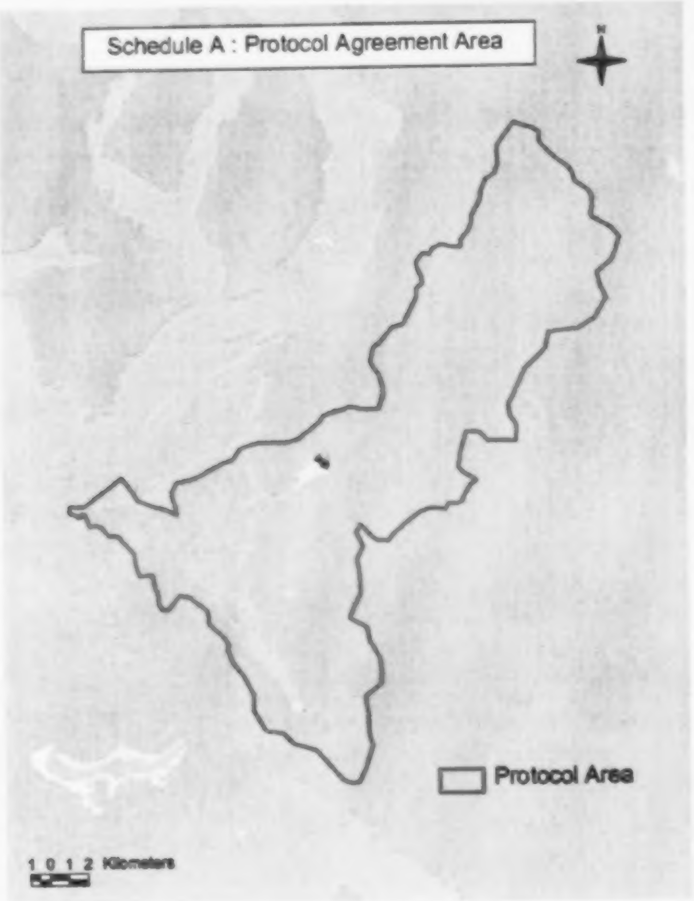
IAMC Representative
Ministry of Environment, Lands and Parks

____________________ __________
Date

IAMC Representative
BC Fisheries

____________________ Date

IAMC Representative
Ministry of Forests


Schedule A : Protocol Agreement Area
N
Protocol Area
1 0 1 2 Kilometers

Appendix 4: Decision Tools

Decision Rules for Determination of Acceptable Uses and Activities

General Considerations

Applications for renewal, assignment or for new tenures or tenure expansions for a particular use are **acceptable** without conditions. Current approving agency siting requirements and guidelines still apply at the site-specific application stage.

Where a Planning Unit already contains an existing use, applications for new tenures or expansion of existing tenures may be considered **conditionally acceptable**, if information and input determines there is an expectation of significant user or resource conflicts; or if the unit is unable to support additional levels of that use due to a lack of areas that meet established siting criteria. In this case, management conditions are provided that either restrict the number of tenures to existing levels and/or allow applications for expansion only within existing tenure boundaries, or limit the applications to specific areas within the Planning Unit. Applications would normally be accepted for renewal or assignment of exiting tenures subject to agency policy and tenure and licence document requirements.

An application for a use that does not exist in a Planning Unit is also identified as **conditionally acceptable** if it the use is considered potentially compatible with existing values and resources, but the acceptance of which would depend on conditions that:

- require the submission of more specific information with a tenure or Management Plan application; or
- identify specific areas within the Planning Unit where applications should only be accepted . Required information could include: biophysical capability, results of a required review process, completion of a campsite strategy, or description of plans or measures to avoid impacts on another use or value. Specific siting conditions or limitations would also result in the identification of a use as conditionally acceptable.

Management conditions would define what information is required for an application to be acceptable and/or specific areas within the Planning Unit where applications would be acceptable.

An application for a specific use is initially identified as **not acceptable** if the use is currently not present in the unit and if:

- information and input determines there is an expectation of significant user or resource conflicts; or,
- the use is considered incompatible with adjacent upland designations.

Activities that are not tenured or managed by the provincial government are identified as **present** or **absent** from a unit, based on information known about the activity.

Modifications:

All of the above initial determinations may be modified in the future as a result of social preferences, including comments and concerns from local government, the public and First Nations.

Appendix 5: Concerns Stated by the Sliammon (Tla'amin) First Nation

During discussions regarding this Plan, the Sliammon (Tla'amin) First Nation indicated that it has major concerns regarding archeological sites in its traditional territory, including the Plan Area, and supplied the Province with a map of the Malaspina Complex area showing Traditional Place names and also provided a confidential map of recorded Archeological Sites. This Plan has incorporated the First Nations names in the planning Unit maps. The concerns stated by the Sliammon include:

- Sliammon Traditional Use Study indicated the area is the most significant land/resource zone in the entire traditional territory of the Sliammon First Nation. The Sliammon people are described as intimately familiar with the landscape and, in their language, created names for major and minor features.
- Three historic main village sites are found in the Plan Area: Tohk natch (Okeover – IR #4), Toh kwon_non (Theodosia – IR #5) and Kah Kee ky (Grace Harbour – IR #6).
- There are 79 documented archeological sites within the Plan Area. The Sliammon has major concerns concern about their protection. Despite protection under the Heritage Conservation Act which includes the potential for significant fines, the Sliammon view the Act as essentially useless without the Province providing sufficient resources to assess, monitor or enforce the Act around heritage resources.
- The following sites were indicated to be particularly significant to the Sliammon and at risk from damage and desecration if the area is to be made available for further economic opportunities and development:
  - 6 sites referenced are all burial sites. Some have already been disturbed.
  - 2 sites were referenced as very large midden sites. These sites are 12,627 square meters and 27,000 square meters, respectively.
  - 1 site referenced contains human remains, a midden, and Culturally Modified Trees. This is considered a large burial area with archeological reports from 1976 indicating that the area has suffered potting and vandalism over the years.
  - 1 site referenced contained a petroglyph that was moved first to a museum and then a garden in Victoria.

This First Nation has stated that it is gravely concerned with provincial government staff reductions in the Archeology and Registration Service Branch of MSRM and fear that this will result in inadequate protection and enforcement under the Heritage Resources Act and concommitant continued desecration and damage. The Sliammon First Nation has indicated that Staff at the Archeology and Registration Service Branch are unable (due to budget) to investigate reports of damage. As a follow-up to the treaty process, the Sliammon First Nation plans to meet with the Archeology Department to make it aware of their concerns and identify a game plan to ensure protection of heritage resources for future generations. The Sliammon are suggesting transfer of these resources to the jurisdiction of to the Sliammon First Nation so that it can take responsibility for them.

Additional statements include:

- statements that the Sliammon (Tla'amin) First Nation has traditionally exercised aboriginal rights in all Planning Units, but noted that this activity has encountered interference from non- residents and tourists.
- Indications that LWBC must consult with it regarding archeological sites during the tenure application process.
- Wish for burial sites to never be approved for development, it is prepared to discuss ways to manage activites around midden sites, during consultations around tenure application.
- concern that interest groups may not properly consult or accommodate them regarding traditional lands, waters and resources (including identified archeological sites).
- Strongly wishes that the Public be aware that registered archeological sites are protected under the Heritage Resources Act. (Note: This Act is available at the following web address: [http://web2.gov.mb.ca/laws/statutes/ccsm/h039-1e.php]).
- indicated that it is prepared to consider ways to manage midden sites relative to tenure application for areas with midden sites, but that burial sites must be avoided.
- Indicated that the Plan Area is not only within its traditional territory, but is also part of its co-management region.
- would like the Province to use the highest form of consultation described under the consultation guidelines.

Appendix 5: Regulation of Shellfish Aquaculture and Dispute Resolution

AGENCY REVIEW AND REGULATORY RESPONSIBILITY

The Ministry of Agriculture, Food and Fisheries (MAFF) is the lead agency for aquaculture development in BC. MAFF is responsible for licensing shellfish aquaculture under the *Fisheries Act* and aquaculture regulations, and for inspecting and ensuring compliance and enforcement of aquaculture licensing provisions and regulations. Through site investigations and field data collection, as well as detailed reviews of proposed Shellfish Aquaculture Management Plans, MAFF biologists assess the biophysical capability and technical feasibility of all aquaculture proposals prior to approval and licensing. Included in the aquaculture license is the approved Shellfish Aquaculture Management Plan which lists the species of culture, and the operating provisions for the tenure. The aquaculture license may also include a number of special provisions determined by site-specific circumstances.

The responsibilities of the Ministry of Water, Land and Air Protection (WLAP) include planning and managing of wildlife, recreational fisheries, as well as provincial parks and protected areas. WLAP reviews proposed shellfish aquaculture operations and then makes recommendations to other government agencies where aquaculture operations could affect the planning and management of the abovementioned land, water and resource base.

Land and Water BC Inc. (LWBC) is a special operating agency responsible for administering and enforcing provisions of the *Land Act* and Water Act. Under the *Land Act* most commercial activities taking place on Crown land (including the seabed) or in Crown waters require a tenure. All proposals for tenure go through an interagency referral process, which is coordinated by LWBC. The main agencies involved in the review process are MAFF, LWBC, and the Department of Fisheries and Oceans Canada (DFO).

Applications for any new tenure, tenure expansion, or alteration of an existing facility may require an environmental assessment under the Canadian Environmental Assessment Act if a Navigable Waters Protection Act permit is required. The Canadian Coast Guard (now an agency within DFO) reviews navigational safety requirements of proposals under the Navigable Waters Protections Act. The DFO and Coast Guard reviews are major determining factors in the approval of proposed projects. DFO reviews applications to assess the potential for negative impacts on fish and/or fish habitat. The Canadian Coast Guard reviews applications to ensure that only sites in safe locations are permitted and that appropriate markers and navigational safety measures are implemented. The review process involves a number of existing technical siting and compatibility criteria that agencies use in assessing applications for shellfish aquaculture tenures (for criteria and agencies responsible, see Appendix 7, Table A.7.1. Use/ Resource Compatibility and Referral Requirements: Shellfish Beach Aquaculture).

Environment Canada (EC) is responsible for measuring water quality and documenting actual and potential pollution sources and making subsequent recommendations for the classification of shellfish growing waters (e.g. approved, closed, etc.).

The Canadian Food Inspection Agency (CFIA) is responsible for plant certification and the monitoring of paralytic shellfish poisoning (red tide levels) in marine waters.

Based on water quality information from Environment Canada and a review by the Classification Committee (EC, DFO, CFIA and WLAP), DFO imposes and enforces harvesting closures.

The Powell River Regional District (PRRD) has the authority to regulate land use under the Local Government Act within its jurisdictional boundaries, which includes the Plan Area. It is anticipated that this will continue under the pending Local Government Charter. Land use planning and regulations can be affected through Official Community Plans (OCPs) and zoning bylaws, which enable the control of conditions such as the type of use, the density of activities (i.e. structures as well as coverage) and set backs (i.e. buffers). OCPs and zoning bylaws must go through a community review process prior to their approval. Noise and nuisance bylaws can be used to control activities that are disturbing within the community, and that are not classified as "Normal Farm Practices" by the Farm Practices Board (now the BC Farm Industry Review Board) under the Farm Practices Protection (Right to Farm) Act. For information on the Farm Practices Protection Act, including licensed aquaculture regulations, see the following website: http://www.agf.gov.bc.ca/resmgmt/fppa/refguide/intro.htm

PROVINCIAL CODE OF PRACTICE

In the spring of 2002, the Province developed a draft Provincial Code of Practice (Standards of Operation) for Shellfish Aquaculture and subjected it to a public review through a consultation program in several coastal communities. Based on that review and additional agency analysis, the Province is now finalizing the Code. Information on the Code of Practice can be viewed at: http://www.agf.gov.bc.ca/fisheries/Shellfish/cop.htm - Final%20COP

http://www.agf.gov.bc.ca/fisheries/Shellfish/cop.htm#Final%20COP

DISPUTE RESOLUTION AND ASSESSMENT OF FARM PRACTICES

During the planning process it became evident that residents wanted more effective methods of dispute resolution within the Plan Area and especially within the Okeover Inlet West Planning Unit (#4) than they felt had been previously available. Although the Plan is expected to avoid or reduce many future disputes related to resource use conflicts, some future disputes may still occur over the operation of specific aquaculture facilities. A dispute resolution process already exists to address such disputes (called "Complaint Resolution Process") under the F*arm Practices Protection (Right to Farm) Act* (FPPA), but not all residents of the Plan Area may be well acquainted with the process or how to use it. To address this difficulty, a detailed description and a flowchart of the process is presented below.

It also became evident that there was a lack of clarity on what constitutes "Normal Farm Practices" allowable under the FPPA (for more detail on the FPPA go to the following website: http://www.agf.gov.bc.ca/resmgmt/fppa/refguide/intro.htm)

The main body created by the FPPA for overseeing disputes over aquaculture is the BC Farm Industry Review Board. The Board was originally established as the Farm Practices Board under the FPPA in 1996, and is responsible for providing a fair and equitable process for resolving farm practice disputes out of court. The FPPA prohibits nuisance lawsuits from being brought against operators of "Normal Farm Practices". The Board also addresses disputes related to the aquaculture industry by providing a non-litigious process for resolving conflicts between farm operators and their neighbors. The Board consists of up to 20 members who represent both farming and non-farming interests across the Province. The Board is responsible for making recommendations and resolving disputes as to whether aquaculture operations are using normal practices. It should be noted that the BC Farm Industry Review Board only deals with disputes over "Normal Farm Practices", and not land use and allocation issues. Site-specific land-use and allocation issues are addressed by LWBC and general resource use planning issues are being addressed by this Plan.

The Board encourages new and innovative technology, but indicates that as proposed operations grow in size and proximity to neighbors, the need increases for proponents to mitigate impacts of their operations on their neighbors. Depending on the site-specific circumstances, there may be some exceptions. This may necessitate a Board review of a specific activity and then a ruling on whether or not it is a "Normal Farm Practice". Since site-specific circumstances vary from one area to another, there is no clear list of what constitutes a "Normal Farm Practice" for aquaculture for every situation. Consequently, proponents should be proactive in planning their operations. Some provisions in this Plan, such as those regarding future noise and visual disturbances in Okeover West may provide a context or guide for the FIRB in making rulings on normal farm practices, should disputes arise in the future.

COMPLIANCE AND ENFORCEMENT OF EXISTING OPERATIONS IN THE PLAN AREA

In 2002, MAFF, MWLAP, MSRM and LWBC developed a provincial "Service Agreement on the Coordination of Compliance and Enforcement". The Agreement is available at: www.agf.gov.bc.ca/fisheries/compl/service%20agreement2.pdf

The Agreement outlines the role of each agency regarding inspection and enforcement of aquaculture and provides the basis for coordinated inspection and enforcement services to be applied throughout the Province. Additionally, provincial regulatory agencies and the PRRD may choose to coordinate future enforcement programs in striving to develop more efficient and effective ways of avoiding overlap in decision-making processes.

Regulatory and dispute related issues identified for the Plan Area are summarized below along with the agencies responsible for addressing these issues and the mechanisms available to accomplish that task:

Unauthorized use of Crown land: LWBC under the *Land Act*

Riparian (i.e. water) access to private upland property: LWBC under the *Land Act*

Adherence to Shellfish Aquaculture Management Plan: MAFF under provisions of the provincial *Fisheries Act* (Aquaculture License and the Aquaculture Regulations) .

Mechanical tumblers: MAFF Aquaculture License; PRRD Zoning

Existence and height of structures: PRRD Zoning

Setbacks: PRRD Zoning

Visual Impacts: PRRD Zoning of structures; Provincial Shellfish Aquaculture Code of Practice

Litter on Beach: Provincial Shellfish Aquaculture Code of Practice

Excessive Mechanization/Normal Farm Practices: BC Farm Industry Review Board - Complaint Resolution Process under the FPPA

Noise Impacts: PRRD Noise Bylaw; Provincial Shellfish Aquaculture Code of Practice

Odour: Provincial Shellfish Aquaculture Code of Practice

DISPUTE RESOLUTION OPTIONS

If an individual has site-specific concerns regarding noise, aesthetics, or other social disturbances arising from a shellfish aquaculture operation it is recommended that she/he consider pursuing the following three options in sequence for dispute resolution. The following discussion makes reference to "complaint" and "complainants". No pejorative connotation is intended with this terminology. It is used to be consistent with language in the Farm Practices Protection (Right to Farm) Act and the Farm Industry Review Board Formal Complaint Process.

Option 1.

Initially contact the operator to discuss the concerns. In many cases, the operator may be able to explain the nature of the operation and/or resolve the concern at this local level.

Option 2.

If the person has talked to the aquaculture operator and has not been able to resolve the concern, or, if the complainant feels uncomfortable communicating with the shellfish operator directly, he/she may contact Aquaculture Licensing and Compliance Branch staff at MAFF. All complaints received concerning possible legislative, regulatory or license violations will be logged and a case file initiated by a MAFF Fisheries Inspector to assess the validity of the complaint. Depending on the outcome of the case file, appropriate enforcement sanctions may apply. Referrals to appropriate regulatory agencies, such as DFO, Ministry of Water, Land and Air Protection and LWBC will also be conducted by MAFF Inspectors, depending on the Inspector's findings. Complainants can contact 1-250-897-7540 to register their complaint.

MAFF staff will endeavor to develop a timely and reasonable resolution to a concern. Often peer advisors - aquaculture operators familiar with the farm practices in question - play an important role in such a resolution.

Option 3.

If the concerned party does not wish to approach the aquaculture operator directly or contact Licensing and Compliance staff at MAFF, they can file a complaint directly with the. The BC Farm Industry Review Board. The Board will undertake an initial investigation by contacting all the interested parties and give the complainant the opportunity to be heard. The Board then has a number of options:

a. The Board can "refuse" the complaint if it considers it trivial, frivolous, vexatious or not made in good faith.

b. The Board can, if it is acceptable to all the parties, adjourn the matter to the informal MAFF "concerns" process.

c. The Board can use a formal "settlement" process that may include MAFF, peer advisors and/or a mediator. The FPB oversees this process.

d. The Board can convene a hearing. The hearing panel must either dismiss the complaint or order the farmer to cease or modify the practice in question. The panel may also refuse the complaint for the same reasons as in "a" above. FPB decisions can be appealed to the Supreme Court on an issue of law or jurisdiction.

Contacts for Ministry of Agriculture, Food and Fisheries and the Farm Practices Board:

BC Farm Industry Review Board (Formerly, Farm Practices Board), Attention Jim Collins
3rd floor, 1007 Fort St.
PO Box 9129 STN PROV GOVT
Victoria, V8W 9B5
250-356-1677

MAFF
Aquaculture Licensing and Compliance Branch
2500 Cliffe Avenue
Courtenay, BC, V9N 5M6
250-897-7540

BC FARM INDUSTRY REVIEW BOARD FORMAL COMPLAINT PROCESS (REVISED SEPTEMBER 5, 2000)

Steps/Action

1. A potential complainant contacts the BC Farm Industry Review Board (Board) prior to filing an official complaint. Board staff will informally discuss the nature of the complaint with the complainant and explain the formal complaint process under the legislation. If the person does not wish to file an official complaint, they will be redirected to the MAFF (MAFF) office nearest to them for information on MAFF's informal 'concerns' process. No further Board action will normally be taken unless a formal complaint is filed.
2. An official complaint is filed. It must be in writing and have information regarding the nature of the complaint, the name and address of the complainant, the name and address of the farmer and the location of the farm. It must also be accompanied by a non-refundable filing fee of $100.00. The normal extent of MAFF staff involvement in the filing of a formal complaint (if the informal process has failed or a person does not wish to use it) would be to provide the potential complainant with the preceding information and the Board's address and telephone number.
3. Board staff will acknowledge receipt of the complaint and send a letter to the complainant and the farmer explaining the complaints process in detail. Staff's letter to the farmer will also enclose a copy of the written notice of complaint and any supporting documentation the complainant provided with the notice.
4. In most cases, following the receipt of a complaint, a member and staff representative of the Board will visit the complainant and the farmer at the location of the complaint. This informal visit will be used to establish expeditious and effective communication with the parties, to ensure that the Board process is understood and to assist the Board staff in preparing for Steps #5 and #6. The member will not serve on any Board panel that may eventually hear the complaint and details of the visit will not, without the agreement of the parties, be communicated to the hearing panel.
5. In consultation with the parties, Board staff will commence assembling background information and identifying any other 'interested parties' that might become involved. Normally, Board staff will contact the appropriate MAFF, or other external agency, office as part of this background investigation.
6. Board staff will make initial recommendations to the Board chair regarding the best approach, or combination of approaches (see Steps #7-11) to handle the complaint. The chair will then issue the appropriate direction(s). Usually, this direction will include the establishment of a hearing panel regardless of whether the complaint will be proceeding directly to a hearing.
7. If deemed appropriate, and before appointing a panel, the chair may seek to determine whether the complaint should be referred to a panel for the purposes of a hearing. After giving the complainant an opportunity to be heard on the issue, the chair will decide whether the subject matter of the application is trivial, the application is frivolous, vexatious or is not made in good faith, or whether the complainant has a sufficient personal interest in the subject matter of the

application. If so, the chair may 'refuse' the complaint.

8. If acceptable to all parties, the complaint may be adjourned in order for the parties to participate in the MAFF 'concerns' process. The Board would not be directly involved pending a successful resolution, or the failure to achieve one.

9. If Step #8 is not used, the formal 'settlement' process may be utilized. This may include MAFF, peer advisors, and/or a mediator (all "knowledgeable persons"). This is similar to Step #8, except that the Board maintains an active and direct management of the process.

10. A pre-hearing conference is held. This will occur if the settlement process is not used, or if it fails. This is a formal process, conducted in person or by telephone, to confirm the issues and parties involved, to identify the background information required and to set the date, time, location and procedures for the hearing.

11. A hearing is conducted. This will be done on a date and in a location suitable to all parties. Although a standard hearing process is employed, the formality and type of hearing (which may include a tour of the farm) will vary depending on the issues and parties involved.

    After a hearing has begun, the panel may 'refuse' the complaint for the same reasons as the chair might in Step #7.

    At any time before a panel decision is issued, the complaint can return to (or commence) the settlement process in order to attempt a resolution not requiring an Board decision.

12. A decision is issued by the Board panel. The Board must dismiss the complaint or order the farmer to cease or modify the practice in question. Once the written 'reasons for decision' are issued, the Board's role in the complaint is essentially terminated. A copy of the FPB's decision will be forwarded to the MAFF office of primary interest, upon request.

13. A party to the appeal has 60 days in which to appeal the Board's decision to the Supreme Court of British Columbia on a question of law or jurisdiction. If the farmer does not comply with the decision of the Board, a court may order the farmer to comply, the farmer may be subject to contempt proceedings and he or she will be open to nuisance and other actions initiated in the courts or at the Local government level. In certain cases, the Board may follow up with post-decision comments and/or recommendations regarding larger issues that may have been identified during the resolution of a complaint.

Appendix 7: Technical Siting and Compatibility Critera for Tenured Uses

TECHNICAL SITING AND COMPATIBILITY CRITERIA FOR TENURED USES

The following tables are intended to clarify how management direction may vary depending on specific circumstances. In most cases the sources of these criteria are indicated in brackets after each criterion. These criteria are used by various referral agencies during their review of tenure applications. These reviews and assessments are based on those agencies' knowledge of the sites applied for, federal and provincial resource data bases and maps as well as field data supplied by proponents to satisfy requirements such as foreshore assessments that may be associated with specific classes of development.

Key:

A: Acceptable
M: Specific Management Provisions required to address interaction. Refer to management direction in specific Planning Units
S: Siting Criteria established to address interaction
T: Timing window established to address activities/uses during critical periods
R: Criteria identified to trigger provincial interagency referral
NC: Not Compatible – no overlap permitted

Clam/ Oyster Beach category in each table includes wild and cultured shellfish (both beach and off-bottom culture.)

Sources:

DFO: Direct comments from DFO
MOU: November 2001 MOU between BCAL (LWBC) and Provincial Referral Agencies
SMP: Provincial Shellfish Management Plan MAFF/ LWBC
FMP: LWBC Commercial Finfish Aquaculture Management Plan Schedule C
BMP: Best Management Practice

Table A.7.1.
Use/Resource Compatibility and Referral Requirements: Shellfish Beach Aquaculture

Water Depth	
Salmon Stream (mouth)	S- Shellfish culture is not to be conducted within the braided channels of any salmonid creek. (SMP) T - Activities are to be timed to minimize impacts on plants and animals (e.g. avoiding main spawning windows) (SMP)
Clam/ Oyster Beach	R - No overlap, referral to WLAP required if application is within 100m (MOU)
Eelgrass Beds	NC: No overlap – 5m minimum (SMP) R: referral to WLAP required if application is within 100m. (MOU) S: Installation of any structures must not alter or disrupt or shade eelgrass habitats (DFO,MOU,SMP)
Kelp Beds	NC - No gear and/or floating structures to be established over kelp bed habitats (SMP)
Rocky Reefs	NC - No gear and/or floating structures to be established over rocky reef habitats (SMP)
Estuaries/ Lagoons	R: Referral to WLAP required if application is within100m(MOU)
Salt Marshes and Mudflats	R: Where identified as a sensitive ecosystem, a provincial tenure is required for applications within 30m (MOU) M - Installation of any structures must not alter or disrupt salt marsh habitats (SMP)
Seal/ Sea Lion Haulouts	R: Referral to WLAP required if application is within 500m (MOU)
Whale Feeding Areas or Migration Pathways	R: Referral to WLAP required if application is within 500m (MOU)
Eulachon Migration and Rearing	T - Activities are to be timed to minimize impacts on plants and animals (e.g. avoiding main spawning windows) (SMP)

Herring Spawning and Migration	T - Activities are to be timed to minimize impacts on plants and animals (e.g. avoiding main spawning windows) (SMP)
Waterfowl Habitat	M - Uncultivated or harvested "leave strips" should be incorporated within the design of beach culture tenures to minimize overall impact on shore birds. Leave strips to cover at least 30% of the tenure area at any given time. (MOU BMP) T - Where possible, aquaculture activity should take place during periods of low bird use (Both seasonal and diurnal) (MOU BMP)
Seabird Colonies	R: Referral to WLAP required if application is within 500m - Includes rafting and congregating areas as well as colonies (MOU)
Wildlife Trees/ Heronries	R: Referral to WLAP required if application is within 100m (MOU)
Invertebrate Habitat	R: Where identified as a sensitive ecosystem, a provincial tenure is required for applications within 30m (MOU)
Red/ Blue Species	M – species specific considerations
Parks, Ecological Reserves, Marine Protected Areas	NC
Areas of Significant Heritage or Cultural Value	To be addressed through referrals to MSRM: Archaeology and Registry Services Branch and affected First Nations

Table A.7.2.
Use/Resource Compatibility and Referral Requirements: Shellfish Deep Water Aquaculture

Water Depth	
Salmon Stream (mouth)	S - Shellfish culture is not to be conducted within the braided channels of any salmonid creek. (SMP) T - Activities are to be timed to minimize impacts on plants and animals (e.g. avoiding main spawning windows) (SMP)
Clam/ Oyster Beach	R - No overlap. Referral to WLAP required if application is within 100m (MOU)
Eelgrass Beds	NC - No overlap – 5m minimum buffer(SMP) R: Referral to WLAP required if application is within 100m. (MOU) S: Installation of any structures must not alter or disrupt or shade eelgrass habitats (DFO,MOU, SMP)
Kelp Beds	NC - No gear and/or floating structures to be established over kelp bed habitats (SMP)
Rocky Reefs	NC - No gear and/or floating structures to be established over rocky reef habitats (SMP)
Estuaries/ Lagoons	R: Referral to WLAP required if application is within 100m (MOU)
Salt Marshes and Mudflats	R: Where identified as a sensitive ecosystem, a provincial tenure is required for applications within 30m (MOU) M - Installation of any structures must not alter or disrupt salt marsh habitats (SMP)
Seal/ Sea Lion Haulouts	R: Referral to WLAP required if application is within 500m (MOU)
Whale Feeding Areas or Migration Pathways	R: Referral to WLAP required if application is within 500m (MOU)
Eulachon Migration and Rearing	T - Activities are to be timed to minimize impacts on plants and animals (e.g. avoiding main spawning windows) Herring spawn on lines or structures etc. must be left undisturbed until eggs hatch and larvae emerge. (DFO, SMP)
Herring Spawning and Migration	T Activities are to be timed to minimize impacts on plants and animals (e.g. avoiding main spawning windows) (SMP) M – Herring spawn on longlines be left until eggs hatch and larvae emerge (SMP)
Waterfowl habitat	M - Longline netting (where used) should extend a minimum of 20m below the surface of the water to minimize conflict with diving ducks. (MOU BMP) T - Where possible, aquaculture activity should take place during periods of low bird use (Both seasonal and diurnal) (MOU BMP)
Seabird Colonies	R: Referral to WLAP required if application is within 500m Includes rafting and congregating areas as well as colonies (MOU)

Table A.7.2. Use/ Resource Compatibility and Referral Requirements: Shellfish Deep Water Aquaculture (cont...)

Wildlife Trees/ Heronries	R: Referral to WLAP required if application is within 100m (MOU)
Invertebrate Habitat	R: Where identified as a sensitive ecosystem, a provincial tenure is required for applications within 30m (MOU)
Red/ Blue Species	M: species specific considerations
Parks, Ecological Reserves, Marine Protected Areas	NC
Areas of Significant Heritage or Cultural Value	R: Address through referrals to MSRM: Archaeology and Registry Services Branch and affected First Nations

Table A.7.3.
Use/Resource Compatibility and Referral Requirements: Finfish Aquaculture

Water Depth	
Salmon Stream (mouth)	S: 1km from mouth of salmonid-bearing stream as determined to be significant by DFO and the Province (FMP)
Clam/ Oyster Beach	S: 125m /300m A minimum spacing of 125 m is required from all shellfish beds and commercial shellfish growing operations. (DFO, FMP) At least 300m must separate finfish aquaculture sites and inter-tidal shellfish beds that have regular or traditional use for First Nations, recreational or commercial fisheries where beds are exposed to water flow from a salmon farm. (FMP)
Eelgrass Beds	M - Where identified as sensitive (as defined by DFO and the province), fish habitat an appropriate siting distance will be determined by DFO and/or the Province. (DFO, FMP)
Kelp Beds	M - Where identified as sensitive (as defined by DFO and the province), fish habitat, an appropriate siting distance will be determined by DFO and/or the Province. (DFO, FMP)
Rocky Reefs	M - Where identified as sensitive(as defined by DFO and/or the province), fish habitat, an appropriate distance will be determined (DFO, FMP)
Estuaries/ Lagoons	M - Where identified as sensitive (as defined by DFO and/or the province), fish habitat, an appropriate distance will be determined by DFO and the Province (DFO, FMP)
Salt Marshes and Mudflats	M - Where identified as sensitive (as defined by DFO and/or the province), fish habitat, an appropriate distance will be determined by DFO and the Province (DFO, FMP)
Seal/ Sea Lion Haulouts	M - Appropriate distance from areas extensively used by marine mammals to be determined by DFO and/or the Province.(DFO, FMP)
Whale Feeding Areas or Migration Pathways	M - Appropriate distance from areas extensively used by marine mammals to be determined by DFO and/or the Province.(DFO, FMP)
Eulachon Migration and Rearing	M
Herring Spawning and Migration	1km - Where herring spawning areas are designated as vital, major or important by DFO and the Province. Herring spawn on lines or structures etc. must be left undisturbed until eggs hatch and larvae emerge. (DFO, FMP)
Waterfowl Habitat	-
Seabird Colonies	-
Wildlife Trees/ Heronries	-
Invertebrate Habitat	S - Where invertebrate habitat includes surveyed commercial dive fishery areas, siting should ensure that surveyed areas are not alienated from harvesting (FMP)
Red/ Blue Species	M – species specific considerations
Parks, Ecological Reserves, Marine Protected Areas	1km - Siting not within line of sight up to 1km in all directions from existing or approved proposals for federal, provincial or regional parks and MPAs, existing or approved proposals for ecological reserves <1000ha (FMP)
Areas of Significant Heritage or Cultural Value	R: Address through referrals to MSRM: Archaeology and Registry Services Branch and affected First Nations

Table A.7.4. Use/Resource Compatibility and Referral Requirements: Log Handling and Storage Infrastructure

Water Depth	S: Log boom and booming grounds require water depth at least 20m. (MOU) S: Heli-log drop areas require water depth at least 25m and are not allowed to strike bottom when released. (MOU) S: Log dumps must be located so that logs can be watered at any tide without grounding (MOU).
Salmon Stream (mouth)	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO) In the absence of a response from DFO, WLAP recommends a minimum separation of 100m (MOU)
Clam/ Oyster Beach	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO) In the absence of a response from DFO, WLAP recommends a minimum separation of 200m (MOU) S: Intertidal wood storage is not permitted; suitable precautions to be taken to ensure this does not occur under any conditions of tide, current, weather. Dragging of logs across beach areas is not permitted (MOU)
Eelgrass Beds	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO) In the absence of a response from DFO, WLAP recommends a minimum separation of 100m (MOU)
Kelp Beds	- NC, S: No gear and/or no floating structures to be established over sensitive kelp habitats. (DFO)
Rocky Reefs	- NC, S: No gear and/or no floating structures to be established over sensitive rocky reef habitats. (DFO)
Estuaries/ Lagoons	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO). In the absence of a response from DFO, WLAP recommends a minimum separation of 100m (MOU)
Salt Marshes and Mudflats	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO) In the absence of a response from DFO, WLAP recommends a minimum separation of 100m (MOU)
Seal/ Sea Lion Haulouts	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO) In the absence of a response from DFO, WLAP recommends a minimum separation of 500m (MOU)
Whale Feeding Areas or Migration Pathways	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. In the absence of a response from DFO, WLAP recommends a minimum separation of 1km from migration pathways only (DFO, MOU)
Eulachon Migration and Rearing	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. To be determined on a site by site basis (DFO, BMP)
Herring Spawning and Migration	T: Activities are to be timed to minimize impacts on plants and animals (e.g. avoid main spawning windows. Herring spawn on lines and structures etc. must be left undisturbed until eggs hatch and larvae emerge. (DFO)
Waterfowl Habitat	-
Seabird Colonies	S: In the absence of a response from DFO, WLAP recommends a minimum separation of 200 m from seabird congregating areas and 1km from seabird colonies. (MOU)
Wildlife Trees/ Heronries	S: In the absence of a response from DFO, WLAP recommends a minimum separation of 100m for wildlife trees, 300m from Heronries. (MOU) S: Helicopter flight paths should be routed a minimum of 1 km from eagle nest trees or Heronries (MOU BMP)
Invertebrate Habitat	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO)
Red/ Blue Species	M: species specific considerations
Parks, Ecological Reserves, Marine Protected Areas	NC
Areas of Significant Heritage or Cultural Value	R: Address through referrals to MSRM: Archaeology and Registry Services Branch and affected First Nations

Table A.7.5.
Use/Resource Compatibility and Referral Requirements: Private Docks

Water Depth	M - Boats, floats and other floating structures should be located and firmly moored in deep water, far enough offshore to prevent grounding at low tide (MOU BMP)
Salmon Stream (mouth)	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO) In the absence of a response from DFO, WLAP recommends a minimum separation of 100m from spawning areas (MOU)
Clam/ Oyster Beach	S: a minimum separation of 125 m. (DFO) WLAP recommends a minimum separation of 125m (MOU)
Eelgrass Beds	NC, S: Installation of any structures must not alter, disrupt or shade eelgrass habitats. (DFO)
Kelp Beds	NC, S - No gear and/or floating structures to be established over sensitive sensitive kelp habitats. (DFO)
Rocky Reefs	NC, S - No gear and/or floating structures to be established over sensitive rocky reef habitats. (DFO)
Estuaries/ Lagoons	NC, S: No gear and/or floating structures to be established over sensitive rocky reef habitats. (DFO) In the absence of a response from DFO, WLAP recommends a minimum separation of 100m (MOU)
Salt Marshes and Mudflats	NC, S: No gear and/or floating structures to be established over sensitive rocky reef habitats. (DFO). In the absence of a response from DFO, WLAP recommends a minimum separation of 30m (MOU)
Seal/ Sea Lion Haulouts	NC, S: No gear and/or floating structures to be established over sensitive rocky reef habitats. (DFO). In the absence of a response from DFO, WLAP recommends a minimum separation of 250m (MOU)
Whale Feeding Areas or Migration Pathways	-
Eulachon Migration and Rearing	- NC, S: No gear and/or floating structures to be established over sensitive rocky reef habitats. (DFO).
Herring Spawning and Migration	- T: Activities to be timed to minimize impacts on plants and animals (e.g. avoid main spawning windows – generally, work is acceptable between June 1 and Feb15). Herring spawn longlines or structures etc must be left undisturbed until eggs hatch and larvae emerge. (DFO).
Waterfowl Habitat	-
Seabird Colonies	S: In the absence of a response from DFO, WLAP recommends a minimum separation of 500m a from seabird colony, 100m from seabird congregating areas
Wildlife Trees/ Heronries	-
Invertebrate Habitat	-
Red/ Blue Species	-
Parks, Ecological Reserves, Marine Protected Areas	NC
Areas of Significant Heritage or Cultural Value	R: Address through referrals to MSRM: Archaeology and Registry Services Branch and affected First Nations

Table A.7.6.
Use/Resource Compatibility and Referral Requirements: Communications Sites

Water Depth	-
Salmon Stream (mouth)	S: 30m - (MOU)
Clam/ Oyster Beach	-
Eelgrass Beds	-
Kelp Beds	-
Rocky Reefs	-
Estuaries/ Lagoons	S: 30m - (MOU)
Salt Marshes and Mudflats	-
Seal/ Sea Lion Haulouts	S: 200m - (MOU)
Whale Feeding Areas or Migration Pathways	
Eulachon Migration and Rearing	
Herring Spawning and Migration	
Waterfowl Habitat	
Seabird Colonies	NC - no overlap with seabird colonies accepted except in critical situations where no other option exists. Referral required (MOU)
Wildlife Trees/ Heronries	S: 100m - (MOU)
Invertebrate Habitat	
Red/ Blue Species	
Parks, Ecological Reserves, Marine Protected Areas	
Areas of Significant Heritage or Cultural Value	

Table A.7.7.
Use/Resource Compatibility and Referral Requirements: Private/Public Utilities

Water Depth	
Salmon Stream (mouth)	S: 30m - Distance specified for salmonid spawning areas (MOU)
Clam/ Oyster Beach	S: 60m - (MOU)
Eelgrass Beds	S: 30m - (MOU)
Kelp Beds	
Rocky Reefs	
Estuaries/ Lagoons	S: 60m – (MOU_
Salt Marshes and Mudflats	NC: No overlap (MOU)
Seal/ Sea Lion Haulouts	S: 100m – (MOU)
Whale Feeding Areas or Migration Pathways	
Eulachon Migration and Rearing	T: Activities to be timed to minimize impacts on plants and animals (e.g. avoid main spawning windows (DFO)
Herring Spawning and Migration	T: Activities to be timed to minimize impacts on plants and animals (e.g. avoid main spawning windows – generally work is acceptable between June 1 and Feb 15). Herring spawn on lines or structures must be left undisturbed until eggs hatch and larvae emerge. (DFO)
Waterfowl Habitat	
Seabird Colonies	S, T: 300m - Alternately installation to occur outside of nesting/rearing period. (MOU)
Wildlife Trees/ Heronries	S: 100m – (MOU)
Invertebrate Habitat	
Red/ Blue Species	
Parks, Ecological Reserves, Marine Protected Areas	
Areas of Significant Heritage or Cultural Value	

Table A.7.8.
Use/Resource Compatibility and Referral Requirements:Floating Lodges and Base Camps

Water Depth	
Salmon Stream (mouth)	
Clam/ Oyster Beach	S: 125 m for lodges, base camps, float homes, commercial recreational guides, docks and floating accommodation, 300 m required for sewage outfalls, 20 m is the minimum consideration for self-contained or composting facilities with an approved waste management plan. (DFO)
Eelgrass Beds	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO)
Kelp Beds	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO) 30m - Where identified as a sensitive ecosystem (MOU)
Rocky Reefs	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO) 30m - Where identified as a sensitive ecosystem (MOU)
Estuaries/ Lagoons	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO). 30m - Raised walkways may be acceptable (MOU)
Salt Marshes and Mudflats	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO). 30m – raised walkways may be acceptable (MOU)
Seal/ Sea Lion Haulouts	S: Appropriate separation distances to be determined by DFO and/or the province based on site-specific considerations. (DFO)
Whale Feeding Areas or Migration Pathways	
Eulachon Migration and Rearing	
Herring Spawning and Migration	T: Herring spawn on lines and structures etc. must be left undisturbed until eggs hatch and larvae emerge. (DFO)
Waterfowl Habitat	
Seabird Colonies	200m
Wildlife Trees/ Heronries	100m/ 200m - 200m for heronries (MOU)
Invertebrate Habitat	
Red/ Blue Species	
Parks, Ecological Reserves, Marine Protected Areas	
Areas of Significant Heritage or Cultural Value	

Table A.7.9.
Use/Resource Compatibility and Referral Requirements: Communications Sites

Water Depth	
Salmon Stream (mouth)	15m 30m - Spacing specified for sanitary and domestic waste facilities. 15m separation is the minimum acceptable buffer for self-contained or composting facilities, 30m for all others. (MOU)
Clam/ Oyster Beach	S: minimum separation of 125 m between all sewage discharges and any beach shellfish culture. (DFO) 60 meters (docks and outfalls – 150 m) (MOU)
Eelgrass Beds	NC: No overlap (MOU)
Kelp Beds	
Rocky Reefs	
Estuaries/ Lagoons	NC - Kayak landing sites should be located away from estuaries and lagoons. Landing sites should be located and used in a way to minimize physical and biological impacts to the foreshore (MOU BMP)
Salt Marshes and Mudflats	NC – 30 m. Kayak landing sites should be located away from salt marshes. Landing sites should be located and used in a way to minimize physical and biological impacts to the foreshore (MOU BMP)
Seal/ Sea Lion Haulouts	
Whale Feeding Areas or Migration Pathways	
Eulachon Migration and Rearing	
Herring Spawning and Migration	
Waterfowl Habitat	
Seabird Colonies	
Wildlife Trees/ Heronries	
Invertebrate Habitat	
Red/Blue Species	
Parks, Ecological Reserves, Marine Protected Areas	
Areas of Significant Heritage or Cultural Value	

Appendix 8: Supporting Information for Environmental Risk Analysis

STEPS FOR THE ANALYSIS: (FOR EACH PLANNING UNIT)

There are three main steps in this process:

1. For baseline comparison purposes, determine what the anticipated risk would be today at the Malaspina Okeover Plan scale, if there were no development in the area and applications were filed for the tenures that in actuality are currently in place (current state).

   The reader may note that a number of existing tenures are currently located in the same areas as, or near, VEC's and may not meet the Technical Siting and Compatibility Criteria. Also the risk analysis for the current situation described below have resulted in some moderate ratings. One cannot necessarily conclude that these existing installations are creating an unacceptable environmental impact or were approved in the face of high risk. The interagency application referral and site assessment process was designed to account for site-specific environmental impact assessment, mitigation and management requirements. Also, some VEC's such as eelgrass and kelp may have colonized areas after development took place. Given that the Plan addresses future uses in the area, it does not assess the environmental implications of existing uses and does not recommend elimination of existing tenures where they overlap with VEC's. The responsibility for addressing any environmental problems that may have occurred with existing developments is left to the agencies responsible for statutory decisions and enforcement measures, if required.

2. Determine the risk associated with potential development in the absence of the Plan.

3. Determine the risk associated with potential development with the Plan in place.

This provides the information to understand how effectively the Plan is likely to reduce environmental risk of development in the Plan Area.

DETAILED CALCULATIONS:

1. Establish a width between the shore and the outermost limit from the shore within which each tenured use is most likely to occur, based on current use in the Plan Area as follows:

   - 10 m offshore for boat launches
   - 100 m offshore for docks and wharves and private moorage
   - 250 m offshore for industrial uses
   - Entire Planning Unit for commercial recreation and marine utilities

2. Calculate the risk assessment area (RAA), VEC areas, and area under tenure covered by each tenured use;

   - Map RAA for each type tenured use using MSRM Geographical Information System (GIS) with Planning Unit area data and the width values from above.
   - Calculate RAA in m2 using map measurements (width value X shoreline length).
   - Map area within RAA occupied by existing tenures for each type of tenured use.
   - Calculate the total area that each individual VEC occupies within the RAA for each type of use.
   - Calculate the area occupied by the existing tenures for each type of tenured use within the RAA for that use.

3. Draw map buffers around the VEC areas.

   - GIS overlays onto Plan Area maps and unit maps (i.e. add area on to VEC areas) using the separation distances that would be required for a use to meet agency technical siting and compatibility criteria). (Note: Some uses, such as eagle nests are point values and the buffering action results in the total area of the VEC being equal to the amount being buffered.)

4. Calculate the area of exiting tenured areas for each use that overlap VEC's

   - Calculate the area of existing tenures for each use that overlap VEC's
   - Calculate the percentage of the VEC area overlapped by existing tenures
   - Map and calculate area within RRA for each tenured use that is available for tenure application without the plan.
   - Map and calculate the percentage of VEC area overlapped by area available for future tenure application without the Plan.
   - Map and calculate the areas within each RRA for

each tenured use that are available for tenure application with the Plan.

- Map and calculate the percentage of VEC area overlapped by area available for future tenure application with the Plan

5. Assign risk rating for current situation, future without the Plan and future with the Plan in each RRA for each use based on the area of VEC and buffers overlapped by existing tenures.

   - Ratings of 0-5 assigned for each VEC (see "Current", "Projected without Plan recommendations" and "Projected with Plan recommendations" tables below). Overlap of 1-20% gives a score of 0 out of 5 (zero to low risk), and 40-60% receives a rating of 3 out of 5 (moderate risk), and 60-100% would receive a rating of 5 out of 5 (high risk).

6. Compare risk for "Current" situation plus risk for potential "Future" situation without Plan, with risk for "Current" situation plus risk for potential "Future" situation with the Plan to determine how effective the Plan will be in reducing environmental risk (Figure A7. 1 describes this process generally).

Figure A8.1: General Approach to Environmental Risk Assessment for Individual Planning Units

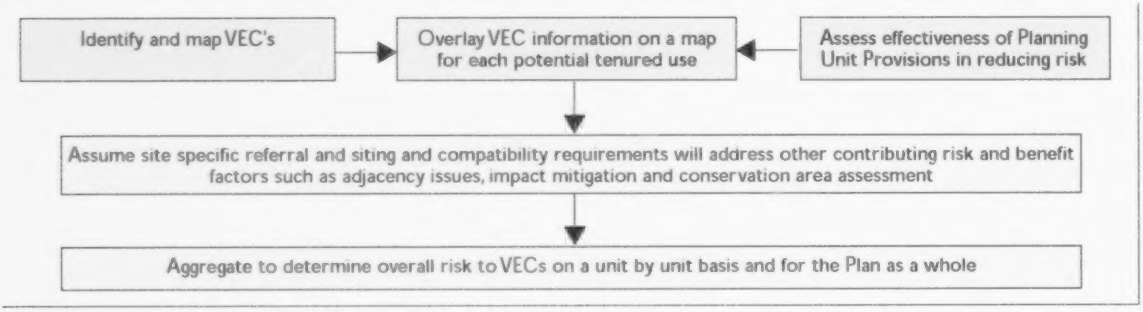

Identify and map VEC's
Overlay VEC information on a map for each potential tenured use
Assess effectiveness of Planning Unit Provisions in reducing risk
Assume site specific referral and siting and compatibility requirements will address other contributing risk and benefit factors such as adjacency issues, impact mitigation and conservation area assessment
Aggregate to determine overall risk to VECs on a unit by unit basis and for the Plan as a whole

Figure A8.1: Spatial Risk Assessment Results for Planning Unit 1 -Malaspina Inlet North

UNIT 1 - Malaspina Inlet North Projected rating following Plan recommendations

Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	**Beach**	○	10	30	13	30	23	30	Conditional (specified area)	(area prorated)	5.4	0.05	13	3.3	13.3	30
	Off Bottom	○	10	30	13	30			Conditional (specified area)	(area prorated	7.6	0.08	13			
	Subtidal	✓	-	-	13	30		-	Acceptable	(area prorated)	63.2	0.63	13			
Finfish Aquaculture		X	0	15	4	15	4	15	Not Acceptable	(subtract projected)	-	-	-	-	0.0	0
Log Storage and Handling		○	11	35	20	35	31	35	Conditional (existing levels)	(subtract future)	N/A	0.00	20	0.0	11.0	35
Docks Wharves and Facilities	**Public**	○	0	35	22	35	22	35	Conditional (specified area)	(area prorated)	10.1	0.10	22	2.2	2.2	35
	Commercial	X	0	35	22	35	22	35	Not Acceptable	(subtract projected)	-	-	-			
Boat Launches		○	0	30	2	30	2	30	Conditional (to shore type)	(area prorated)	14.9	0.15	2	0.3	0.3	30
Marine Telecommunications		✓	0	30	19	30	19	30	Acceptable nil 100.0 1.00 19	nil	100.0	1.00	19	10.9	19.0	30
Floating Lodges and Camps		X	0	25	10	25	10	25	Not Acceptable	(subtract projected)	-	-	-	-	0.0	0
Float Homes		X	0	25	10	25	10	25	Not Acceptable	(subtract projected)	-	-	-	-	0.0	0
Private Moorage		○	0	35	22	35	22	35	Conditional (specified area)	(area prorated)	6.6	0.07	22	1.5	1.5	35
Commercial Recreation Guiding		✓	0	25	6	25	6	25	Acceptable	nil	100.0	1.00	6	6.0	6.0	25
Planning Unit Total			21	285	128	285	149	285	**Planning Unit Total**					32.3	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															**53**	**220**

Figure A8.2: Spatial Risk Assessment Results for Planning Unit 2 -Malaspina Inlet South

UNIT 2 - Malaspina Inlet South			Projected rating following Plan recommendations													
Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	O	15	30	12	30	27	30	Conditional (existing levels)	(subtract future)	N/A	0.0	12	2.0	17	30
	Off Bottom	O	15	30	12	30			Conditional (expansion only)	(area prorated)	29.3	0.1	12			
	Subtidal	✓	-	-	12	30			Acceptable	(area prorated)	98.2	0.4	12			
Finfish Aquaculture		X	0	15	4	15	4	15	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Log Storage and Handling		X	0	30	20	30	20	30	Not Acceptable	(subtract projected)	-	-	-	-	0	0
Docks Wharves and Facilities	Public	X	0	25	13	25	13	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
	Commercial	X	0	25	13	25			Not Acceptable	(subtract projected)	-	-	-			
Boat Launches		X	0	20	5	20	5	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Marine Telecommunications		✓	0	25	18	25	18	25	Acceptable	nil	100.0	1	18	18.0	18	25
Floating Lodges and Camps		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		X	0	25	21	25	21	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Commercial Recreation Guiding		✓	0	25	6	25	6	25	Acceptable	nil	100.0	1	6	6.0	6	25
Planning Unit Total			15	235	117	235	105	235	Planning Unit Total					26.0	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															41	80

Figure A8.1: Spatial Risk Assessment Results for Planning Unit 1 -Malaspina Inlet North

UNIT 1 - Malaspina Inlet North **Projected rating following Plan recommendations**

Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	○	10	30	13	30	23	30	Conditional (specified area)	(area prorated)	5.4	0.05	13	3.3	13.3	30
	Off Bottom	○	10	30	13	30			Conditional (specified area)	(area prorated	7.6	0.08	13			
	Subtidal	✓	-	-	13	30		-	Acceptable	(area prorated)	63.2	0.63	13			
Finfish Aquaculture		X	0	15	4	15	4	15	Not Acceptable	(subtract projected)	-	-	-	-	0.0	0
Log Storage and Handling		○	11	35	20	35	31	35	Conditional (existing levels)	(subtract future)	N/A	0.00	20	0.0	11.0	35
Docks Wharves and Facilities	Public	○	0	35	22	35	22	35	Conditional (specified area)	(area prorated)	10.1	0.10	22	2.2	2.2	35
	Commercial	X	0	35	22	35	22	35	Not Acceptable	(subtract projected)	-	-	-			
Boat Launches		○	0	30	2	30	2	30	Conditional (to shore type)	(area prorated)	14.9	0.15	2	0.3	0.3	30
Marine Telecommunications		✓	0	30	19	30	19	30	Acceptable nil 100.0 1.00 19	nil	100.0	1.00	19	10.9	19.0	30
Floating Lodges and Camps		X	0	25	10	25	10	25	Not Acceptable	(subtract projected)	-	-	-	-	0.0	0
Float Homes		X	0	25	10	25	10	25	Not Acceptable	(subtract projected)	-	-	-	-	0.0	0
Private Moorage		○	0	35	22	35	22	35	Conditional (specified area)	(area prorated)	6.6	0.07	22	1.5	1.5	35
Commercial Recreation Guiding		✓	0	25	6	25	6	25	Acceptable	nil	100.0	1.00	6	6.0	6.0	25
Planning Unit Total			21	285	128	285	149	285	**Planning Unit Total**					32.3	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															**53**	**220**

Figure A8.2: Spatial Risk Assessment Results for Planning Unit 2 -Malaspina Inlet South

UNIT 2 - Malaspina Inlet South **Projected rating following Plan recommendations**

Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	○	15	30	12	30	27	30	Conditional (existing levels)	(subtract future)	N/A	0.0	12	2.0	17	30
	Off Bottom	○	15	30	12	30			Conditional (expansion only)	(area prorated)	29.3	0.1	12			
	Subtidal	✓	-	-	12	30			Acceptable	(area prorated)	98.2	0.4	12			
Finfish Aquaculture		X	0	15	4	15	4	15	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Log Storage and Handling		X	0	30	20	30	20	30	Not Acceptable	(subtract projected)	-	-	-		0	0
Docks Wharves and Facilities	Public	X	0	25	13	25	13	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
	Commercial	X	0	25	13	25			Not Acceptable	(subtract projected)	-	-	-			
Boat Launches		X	0	20	5	20	5	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Marine Telecommunications		✓	0	25	18	25	18	25	Acceptable	nil	100.0	1	18	18.0	18	25
Floating Lodges and Camps		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		X	0	25	21	25	21	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Commercial Recreation Guiding		✓	0	25	6	25	6	25	Acceptable	nil	100.0	1	6	6.0	6	25
Planning Unit Total			15	235	117	235	105	235	Planning Unit Total					26.0	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															41	80

Figure A8.3: Spatial Risk Assessment Results for Planning Unit 3 - Trevenen Bay

UNIT 3 - Trevenen By **Projected rating following Plan recommendations**

Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	○	19	35	11	35	30	35	Conditional (existing levels)	(subtract future)	N/A	0.0	11	0.0	19	35
	Off Bottom	○	19	35	11	35			Conditional (existing levels)	(subtract future)	N/A	0.0	11			
	Subtidal	X	-	-	14	35			Not Acceptable	(subtract projected)	-	-	-			
Finfish Aquaculture		X	0	20	8	20	8	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Log Storage and Handling		X	0	30	23	30	23	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Docks Wharves and Facilities	Public	X	0	30	23	30	23	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	30
	Commercial	X	0	30	23	30			Not Acceptable	(subtract projected)	-	-	-			
Boat Launches		X	0	20	5	20	5	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Marine Telecommunications		✓	7	30	21	30	28	30	Acceptable	nil	100	1	21	21.0	28	30
Floating Lodges and Camps		X	0	20	8	20	8	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	20	8	20	8	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		X	0	35	24	35	24	35	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Commercial Recreation Guiding		X	0	25	11	25	11	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Planning Unit Total			19	265	168	265	138	265	Planning Unit Total					21.0	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															47	95

Figure A8.4: Spatial Risk Assessment Results for Planning Unit 4 - Okeover Inlet West

UNIT 4 - Okeover Inlet West — **Projected rating following Plan recommendations**

Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	○	8	40	14	40	22	40	Conditional (existing levels)	(subtract future)	N/A	0.0	14	14.0	22	40
	Off Bottom	○	8	40	14	40			Conditional (existing levels)	(subtract future)	N/A	0.0	14			
	Subtidal	✓	-	-	14	40			Acceptable	(area prorated)	99.9	1.0	14			
Finfish Aquaculture		X	0	25	7	25	7	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Log Storage and Handling		X	0	40	20	40	20	40	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Docks Wharves and Facilities	Public	○	9	45	18	45	27	45	Conditional (specified area)	(area prorated)	34.3	0.3	18	8.0	26	45
	Commercial	○	9	45	18	45	27	45	Conditional (existing levels)	(subtract future)	10.0	0.1	18			
Boat Launches		○	4	30	6	30	10	30	Conditional (to shore type)	(area prorated)	30.0	0.3	6	1.8	6	30
Marine Telecommunications		✓	4	40	14	40	18	40	Acceptable	nil	100.0	1.0	14	14.0	18	40
Floating Lodges and Camps		X	0	35	9	35	9	35	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	35	9	35	9	35	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		✓	0	45	17	45	17	45	Acceptable	(area prorated)	32.4	0.3	17	5.5	6	45
Commercial Recreation Guiding		✓	0	35	8	35	8	35	Acceptable	nil	100.0	1.0	8	8.0	8	35
Planning Unit Total			25	370	122	370	152	370	Planning Unit Total					51.3	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															85	235

Figure A8.3: Spatial Risk Assessment Results for Planning Unit 3 - Trevenen Bay

UNIT 3 - Trevenen By		**Projected rating following Plan recommendations**														
Coastal Foreshore and Nearshore Uses			**Current** (without Plan)		**Future** (without Plan)		**Projected = Current + Future** (without Plan)		**Projected** (with Plan)							
		Acceptability	**Use Rating**	**out of**	**Use Rating**	**out of**	**Projected without Plan**	**out of**	**Use Recommendations**	**Rating Reduction**	**% Non-tenured RAA**	**Proportion of Future Use Rating**	**out of**	**Plan Risk**	**Projected with Plan**	**out of**
Shellfish Aquaculture	**Beach**	○	19	35	11	35	30	35	Conditional (existing levels)	(subtract future)	N/A	0.0	11	0.0	19	35
	Off Bottom	○	19	35	11	35			Conditional (existing levels)	(subtract future)	N/A	0.0	11			
	Subtidal	X	-	-	14	35			Not Acceptable	(subtract projected)	-	-	-			
Finfish Aquaculture		X	0	20	8	20	8	20	Not Acceptable	(subtract projected)		-	-	0.0	0	0
Log Storage and Handling		X	0	30	23	30	23	30	Not Acceptable	(subtract projected)			-	0.0	0	0
Docks Wharves and Facilities	**Public**	X	0	30	23	30	23	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	30
	Commercial	X	0	30	23	30			Not Acceptable	(subtract projected)	-	-	-			
Boat Launches		X	0	20	5	20	5	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Marine Telecommunications		✓	7	30	21	30	28	30	Acceptable	nil	100	1	21	21.0	28	30
Floating Lodges and Camps		X	0	20	8	20	8	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	20	8	20	8	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		X	0	35	24	35	24	35	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Commercial Recreation Guiding		X	0	25	11	25	11	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Planning Unit Total			19	265	168	265	138	265	**Planning Unit Total**					21.0	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															**47**	**95**

Figure A8.4: Spatial Risk Assessment Results for Planning Unit 4 - Okeover Inlet West

UNIT 4 - Okeover Inlet West **Projected rating following Plan recommendations**

Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	○	8	40	14	40	22	40	Conditional (existing levels)	(subtract future)	N/A	0.0	14	14.0	22	40
	Off Bottom	○	8	40	14	40			Conditional (existing levels)	(subtract future)	N/A	0.0	14			
	Subtidal	✓	-	-	14	40			Acceptable	(area prorated)	99.9	1.0	14			
Finfish Aquaculture		X	0	25	7	25	7	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Log Storage and Handling		X	0	40	20	40	20	40	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Docks Wharves and Facilities	Public	○	9	45	18	45	27	45	Conditional (specified area)	(area prorated)	34.3	0.3	18	8.0	26	45
	Commercial	○	9	45	18	45	27	45	Conditional (existing levels)	(subtract future)	10.0	0.1	18			
Boat Launches		○	4	30	6	30	10	30	Conditional (to shore type)	(area prorated)	30.0	0.3	6	1.8	6	30
Marine Telecommunications		✓	4	40	14	40	18	40	Acceptable	nil	100.0	1.0	14	14.0	18	40
Floating Lodges and Camps		X	0	35	9	35	9	35	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	35	9	35	9	35	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		✓	0	45	17	45	17	45	Acceptable	(area prorated)	32.4	0.3	17	5.5	6	45
Commercial Recreation Guiding		✓	0	35	8	35	8	35	Acceptable	nil	100.0	1.0	8	8.0	8	35
Planning Unit Total			25	370	122	370	152	370	Planning Unit Total					51.3	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															**85**	**235**

Figure A8.5: Spatial Risk Assessment Results for Planning Unit 5 - Okeover Inlet East

UNIT 5 - Okeover Inlet East									Projected rating following Plan recommendations							
Coastal Foreshore and Nearshore Uses			Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
		Acceptability	Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	✓	18	35	10	35	28	40	Acceptable	(area prorated)	29.3	0.3	10	7.4	25	35
	Off Bottom	✓	18	35	10	35			Acceptable	(area prorated)	94.9	0.95	10			
	Subtidal	✓	-	-	10	35			Acceptable	(area prorated)	98.6	0.99	10			
Finfish Aquaculture		X	0	25	7	25	7	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Log Storage and Handling		O	8	40	21	40	29	40	Conditional (expansion only)	(area prorated)	2.5	0.03	21	0.6	9	40
Docks Wharves and Facilities	Public	✓	0	35	21	35	21	35	Acceptable	(area prorated)	5.5	0.1	21	2.3	2	35
	Commercial	✓	0	35	21	35	21	35	Acceptable	(area prorated)	4.7	0.1	21			
Boat Launches		O	0	30	5	30	5	30	Conditional (to shore type)	(area prorated)	84.0	0.84	5	4.2	4	30
Marine Telecommunications		✓	8	35	20	35	28	35	Acceptable	nil	100.0	1	20	20.0	28	35
Floating Lodges and Camps		✓	0	30	6	30	6	30	Acceptable	nil	100.0	1	6	6.0	6	30
Float Homes		X	0	30	6	30	6	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		✓	0	35	21	35	21	35	Acceptable	nil	100.0	1	21	21.0	21	35
Commercial Recreation Guiding		O	N/A	30	6	30	6	30	Conditional (BMP)	nil	100.0	1	6	6.0	6	30
Planning Unit Total			34	325	123	325	150	325	Planning Unit Total					67.6	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															102	270

Figure A8.6: Spatial Risk Assessment Results for Planning Unit 6 - Lancelot Inlet

UNIT 6 - Lancelot Inlet			Projected rating following Plan recommendations													
Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	✓	16	35	16	35	32	35	Acceptable	(area prorated)	37.4	0.4	16	12.5	28	35
	Off Bottom	✓	16	35	16	35			Acceptable	(area prorated)	98	0.98	16			
	Subtidal	✓	-	-	16	35			Acceptable	(area prorated)	99	0.99	16			
Finfish Aquaculture		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Log Storage and Handling		O	7	35	20	35	27	35	Conditional (existing levels)	(subtract future)	N/A	0	20	0.0	7	35
Docks Wharves and Facilities	Public	✓	0	35	13	35	13	35	Acceptable	(area prorated)	5.1	0.05	13	0.7	1	35
	Commercial	✓	0	35	13	35	13	35	Acceptable	(area prorated)	5.1	0.05	13			
Boat Launches		O	0	25	7	25	7	25	Conditional (to shore type)	(area prorated)	69.8	0.7	7	4.9	5	25
Marine Telecommunications		✓	N/A	35	13	35	13	35	Acceptable	nil	100	1	13	13.0	13	35
Floating Lodges and Camps		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		✓	N/A	35	14	35	14	35	Acceptable	nil	100	1	14	14.0	14	35
Commercial Recreation Guiding		O	N/A	30	9	30	9	30	Conditional (BMP)	nil	100	1	9	9.0	9	30
Planning Unit Total			23	290	119	290	142	290	Planning Unit Total					54.0	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															77	195

Figure A8.5: Spatial Risk Assessment Results for Planning Unit 5 - Okeover Inlet East

UNIT 5 - Okeover Inlet East		Projected rating following Plan recommendations															
Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)								
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	✓	18	35	10	35	28	40	Acceptable	(area prorated)	29.3	0.3	10	7.4	25	35
	Off Bottom	✓	18	35	10	35			Acceptable	(area prorated)	94.9	0.95	10			
	Subtidal	✓	-	-	10	35			Acceptable	(area prorated)	98.6	0.99	10			
Finfish Aquaculture		X	0	25	7	25	7	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Log Storage and Handling		O	8	40	21	40	29	40	Conditional (expansion only)	(area prorated)	2.5	0.03	21	0.6	9	40
Docks Wharves and Facilities	Public	✓	0	35	21	35	21	35	Acceptable	(area prorated)	5.5	0.1	21	2.3	2	35
	Commercial	✓	0	35	21	35	21	35	Acceptable	(area prorated)	4.7	0.1	21			
Boat Launches		O	0	30	5	30	5	30	Conditional (to shore type)	(area prorated)	84.0	0.84	5	4.2	4	30
Marine Telecommunications		✓	8	35	20	35	28	35	Acceptable	nil	100.0	1	20	20.0	28	35
Floating Lodges and Camps		✓	0	30	6	30	6	30	Acceptable	nil	100.0	1	6	6.0	6	30
Float Homes		X	0	30	6	30	6	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		✓	0	35	21	35	21	35	Acceptable	nil	100.0	1	21	21.0	21	35
Commercial Recreation Guiding		O	N/A	30	6	30	6	30	Conditional (BMP)	nil	100.0	1	6	6.0	6	30
Planning Unit Total			34	325	123	325	150	325	Planning Unit Total					67.6	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															102	270

Figure A8.6: Spatial Risk Assessment Results for Planning Unit 6 - Lancelot Inlet

UNIT 6 - Lancelot Inlet			**Current** (without Plan)		**Future** (without Plan)		**Projected = Current + Future** (without Plan)		**Projected** (with Plan)							
Coastal Foreshore and Nearshore Uses		**Acceptability**	**Use Rating**	**out of**	**Use Rating**	**out of**	**Projected without Plan**	**out of**	**Use Recommendations**	**Rating Reduction**	**% Non-tenured RAA**	**Proportion of Future Use Rating**	**out of**	**Plan Risk**	**Projected with Plan**	**out of**
Shellfish Aquaculture	**Beach**	✓	16	35	16	35	32	35	Acceptable	(area prorated)	37.4	0.4	16	12.5	28	35
	Off Bottom	✓	16	35	16	35			Acceptable	(area prorated)	98	0.98	16			
	Subtidal	✓	-	-	16	35			Acceptable	(area prorated)	99	0.99	16			
Finfish Aquaculture		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-		-	0.0	0	0
Log Storage and Handling		○	7	35	20	35	27	35	Conditional (existing levels)	(subtract future)	N/A	0	20	0.0	7	35
Docks Wharves and Facilities	**Public**	✓	0	35	13	35	13	35	Acceptable	(area prorated)	5.1	0.05	13	0.7	1	35
	Commercial	✓	0	35	13	35	13	35	Acceptable	(area prorated)	5.1	0.05	13			
Boat Launches		○	0	25	7	25	7	25	Conditional (to shore type)	(area prorated)	69.8	0.7	7	4.9	5	25
Marine Telecommunications		✓	N/A	35	13	35	13	35	Acceptable	nil	100	1	13	13.0	13	35
Floating Lodges and Camps		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	20	9	20	9	20	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		✓	N/A	35	14	35	14	35	Acceptable	nil	100	1	14	14.0	14	35
Commercial Recreation Guiding		○	N/A	30	9	30	9	30	Conditional (BMP)	nil	100	1	9	9.0	9	30
	Planning Unit Total		23	290	119	290	142	290				**Planning Unit Total**		54.0	SUM	
										Projected Rating for Planning Unit (with Plan Recommendations)					77	195

Figure A8.7: Spatial Risk Assessment Results for Planning Unit 7 - Theodosia Inlet

UNIT 7 - Theodosia Inlet **Projected rating following Plan recommendations**

Coastal Foreshore and Nearshore Uses		Acceptability	Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
			Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	O	10	30	13	30	23	30	Conditional (existing levels)	(subtract future)	N/A	0.0	13	6.7	17	30
	Off Bottom	O	10	30	13	30			Acceptable	(area prorated)	72.7	0.73	13			
	Subtidal	✓	-	-	13	30			Acceptable	(area prorated)	82.0	0.82	13			
Finfish Aquaculture		O	0	30	16	30	16	30	Conditional (specified area)	(area prorated)	25.9	0.26	16	4.1	4	30
Log Storage and Handling		O	9	30	21	30	30	30	Conditional (expansion only)	(area prorated)	7.1	0.07	21	1.5	10	30
Docks Wharves and Facilities	Public	O	15	40	24	40	39	40	Conditional (expansion only)	(area prorated)	22.2	0.22	24	2.9	18	35
	Commercial	X	15	40	24	40			Conditional (expansion only)	(area prorated)	2.0	0.02	24			
Boat Launches		X	0	25	11	25	11	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Marine Telecommunications		✓	0	35	22	35	22	35	Acceptable	nil	100.0	1	22	22.0	22	35
Floating Lodges and Camps		X	0	30	11	30	11	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	30	11	30	11	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		X	0	35	24	35	24	35	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Commercial Recreation Guiding		✓	N/A	30	16	30	16	30	Acceptable	nil	100.0	1	16	16.0	16	30
Planning Unit Total			34	320	170	320	203	320	**Planning Unit Total**					53.2	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															87	190

Figure A8.7: Spatial Risk Assessment Results for Planning Unit 7 - Theodosia Inlet

UNIT 7 - Theodosia Inlet			Projected rating following Plan recommendations													
Coastal Foreshore and Nearshore Uses			Current (without Plan)		Future (without Plan)		Projected = Current + Future (without Plan)		Projected (with Plan)							
		Acceptability	Use Rating	out of	Use Rating	out of	Projected without Plan	out of	Use Recommendations	Rating Reduction	% Non-tenured RAA	Proportion of Future Use Rating	out of	Plan Risk	Projected with Plan	out of
Shellfish Aquaculture	Beach	○	10	30	13	30	23	30	Conditional (existing levels)	(subtract future)	N/A	0.0	13	6.7	17	30
	Off Bottom	○	10	30	13	30			Acceptable	(area prorated)	72.7	0.73	13			
	Subtidal	✓	-	-	13	30			Acceptable	(area prorated)	82.0	0.82	13			
Finfish Aquaculture		○	0	30	16	30	16	30	Conditional (specified area)	(area prorated)	25.9	0.26	16	4.1	4	30
Log Storage and Handling		○	9	30	21	30	30	30	Conditional (expansion only)	(area prorated)	7.1	0.07	21	1.5	10	30
Docks Wharves and Facilities	Public	○	15	40	24	40	39	40	Conditional (expansion only)	(area prorated)	22.2	0.22	24	2.9	18	35
	Commercial	X	15	40	24	40			Conditional (expansion only)	(area prorated)	2.0	0.02	24			
Boat Launches		X	0	25	11	25	11	25	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Marine Telecommunications		✓	0	35	22	35	22	35	Acceptable	nil	100.0	1	22	22.0	22	35
Floating Lodges and Camps		X	0	30	11	30	11	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Float Homes		X	0	30	11	30	11	30	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Private Moorage		X	0	35	24	35	24	35	Not Acceptable	(subtract projected)	-	-	-	0.0	0	0
Commercial Recreation Guiding		✓	N/A	30	16	30	16	30	Acceptable	nil	100.0	1	16	16.0	16	30
Planning Unit Total			34	320	170	320	203	320	Planning Unit Total					53.2	SUM	
Projected Rating for Planning Unit (with Plan Recommendations)															87	190

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